WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON AGRICULTURAL EXPERIMENT STATION

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
MAY 1, 1962

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado and State of Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer and Other Agencies
Columbia	Monthly (Jan.-May)	Boise, Idahd	Idaho State Reclamation Engineer
Upper Missouri and State of Montana	Monthly (Feb.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
West-Wide	Oct. 1, Apr. 1, May 1	Portland, Oregdn	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assdc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. Agr. Exp. Station Cold. State Engineer N. Mex. State Engineer
Idaho	Mdnthly (Feb.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Ore. Agr. Exp. Station Oregon State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wydming	Wyoming State Engineer

Copies of these various reports may be secured from:

Head, Water Supply Forecasting Section
Soil Conservation Service
P.O. Box 4170, Portland 8, Oregon

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Comptroller, Water Rights Br., Dept. of Lands and Forests, Parliament Bldg., Victoria, B.C., Canada
Califdrnia	Monthly (Feb.-May)	Calif. Dept. df Water Resdurces, Sacramento, Calif.

USDA-SCS-PORTLAND, OREG. 1961

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

ISSUED

MAY 8, 1962

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

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EXPERIMENT STATION

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STATE ENGINEER
STATE OF OREGON

TABLE OF CONTENTS

WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

MAY 1, 1962

WATER SUPPLY OUTLOOK for OREGON

MAY 1, 1962

Satisfactory water supplies for all of Oregon's irrigated lands now seem assured except for a few important areas with "short" stored water supplies. Individual water users dependent on stored water in McKay, Agency Valley, Warmsprings and Drews Valley reservoirs will have to practice extremely careful water management if their lands are to have a complete irrigation season.

SNOW COVER:

April weather produced unusually heavy snowmelt with the result that water content of the mountain snowpack is now far below the desirable amount. The current snowpack is 56 percent of the 15 year average for May 1.

SOIL MOISTURE:

Moisture in the soil-mantle, the top 3 or 4 feet under the mountain snowpack, is adequate in all but the lowest and highest elevations. Drying winds in many areas have already removed from 1 to 2 inches of moisture from low elevation watersheds. Soils in high elevations areas, where snowmelt is only beginning, will still absorb from 3 to 5 inches of early runoff water.

The soil-mantle in the head of the Malheur, Burnt and John Day watersheds has already soaked up from 4 to 5 inches of snowmelt water during the April runoff, resulting in a considerable reduction in the amount of streamflow.

RESERVOIR STORAGE:

Water stored in 23 major irrigation reservoirs is 19 percent below the May 1 average and 15 percent greater than last year on this date.

Shortage of stored water supplies in McKay reservoir in Umatilla County, Agency Valley and Warmsprings reservoirs in Malheur County and Drews reservoir in Lake County, makes a "tight" situation for these areas.

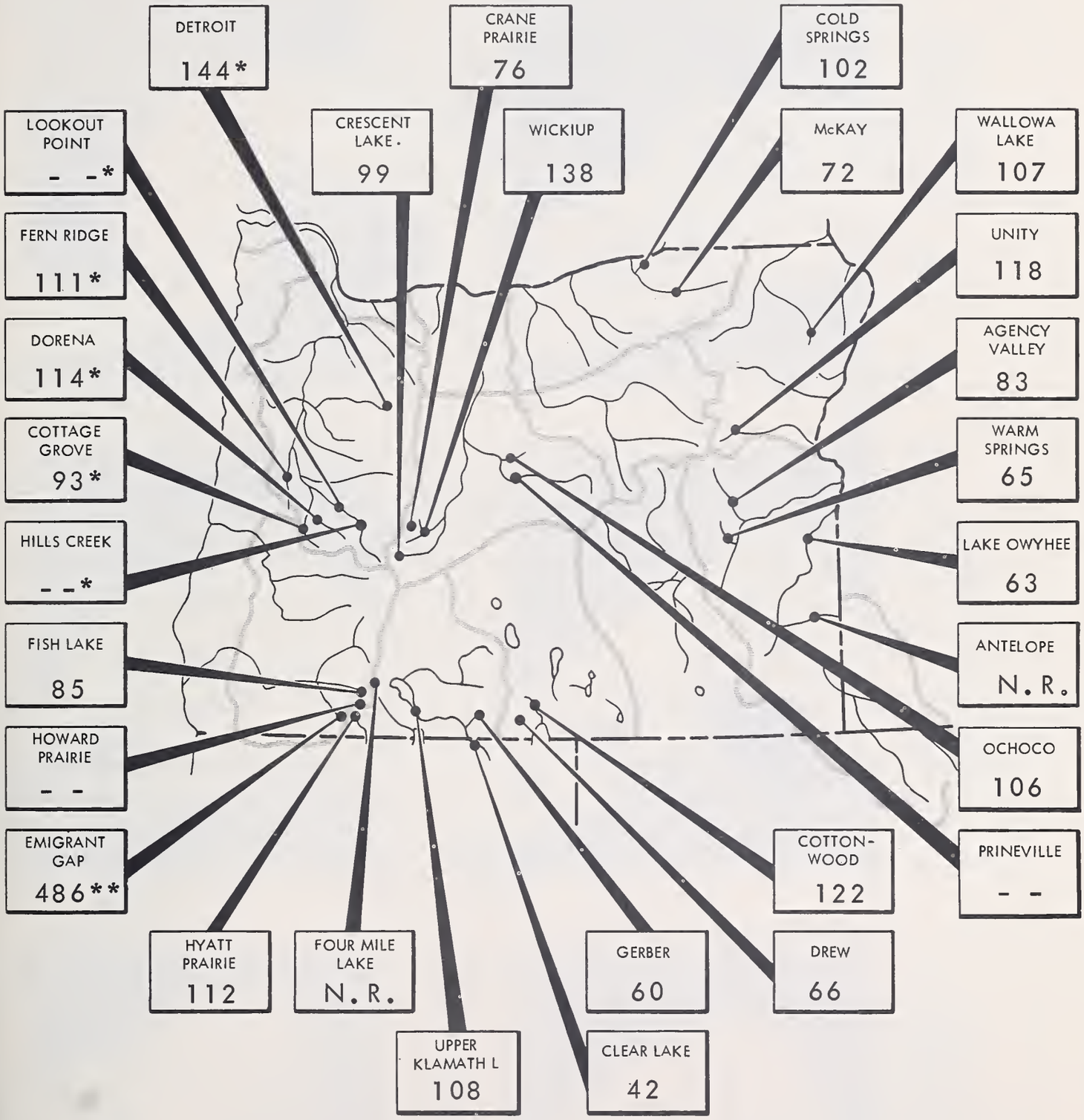
STREAMFLOW:

Streamflow forecasts for the 1962 irrigation season vary from 70 percent of the 1943-57 average on the North Fork of the Malheur River to 120 percent average on Crooked River in Crook County.

All forecasts assume average precipitation and temperature during the runoff period.

STORAGE STATUS of OREGON RESERVOIRS
as percent of 1943-57, 15 year average

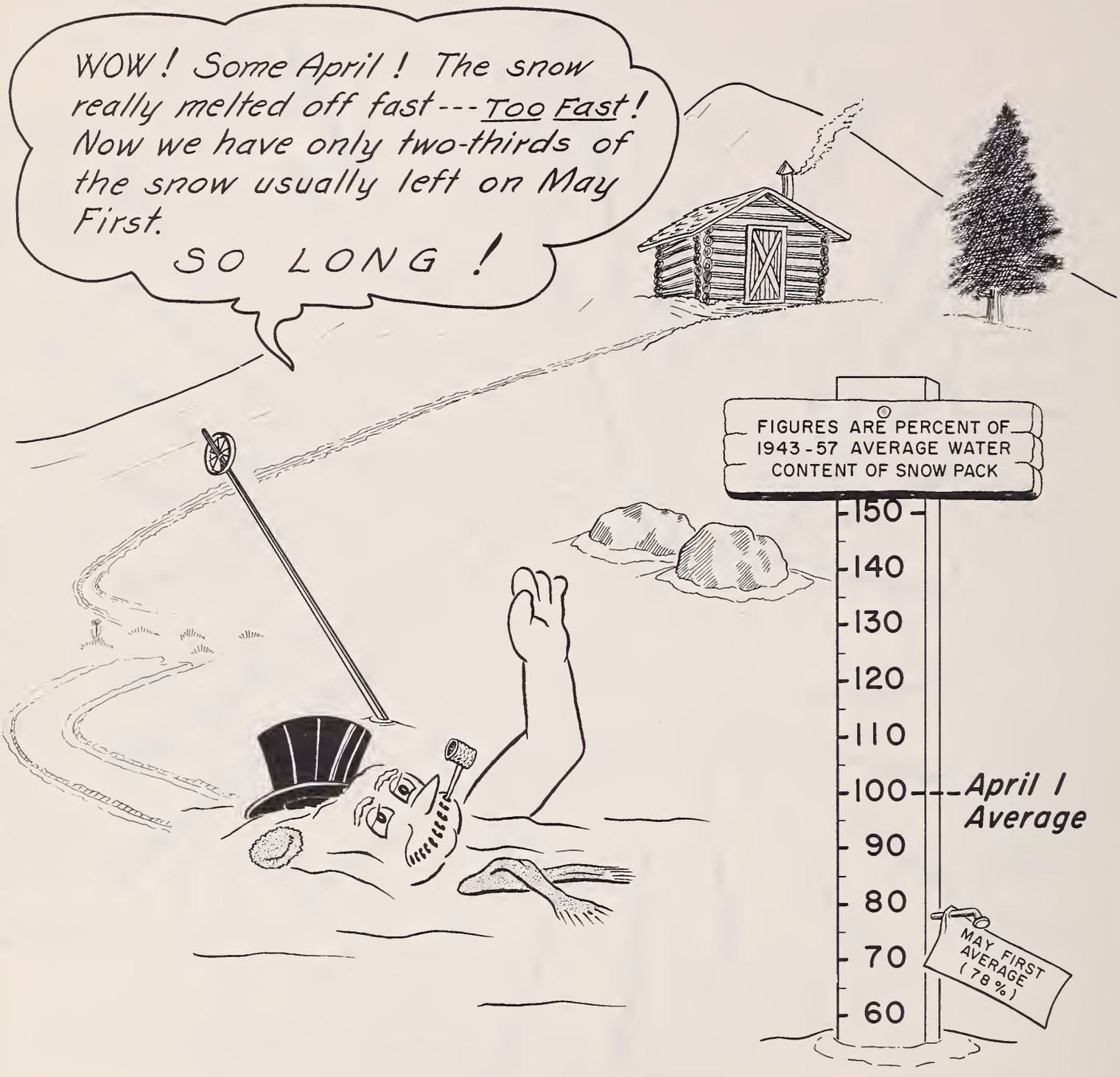
MAY 1, 1962

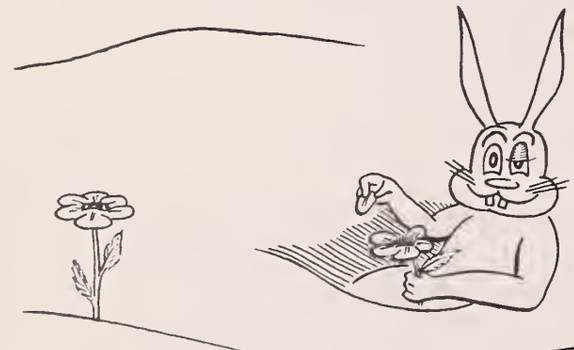


**-Multiple purpose reservoir - space reserved primarily for flood runoff.*
N.R.-No report.
***-Capacity of reservoir greatly increased but current storage compared with previous average.*
-- Short record - no average for comparison.

OREGON SNOW PACK ACCUMULATION

AS OF MAY 1, 1962





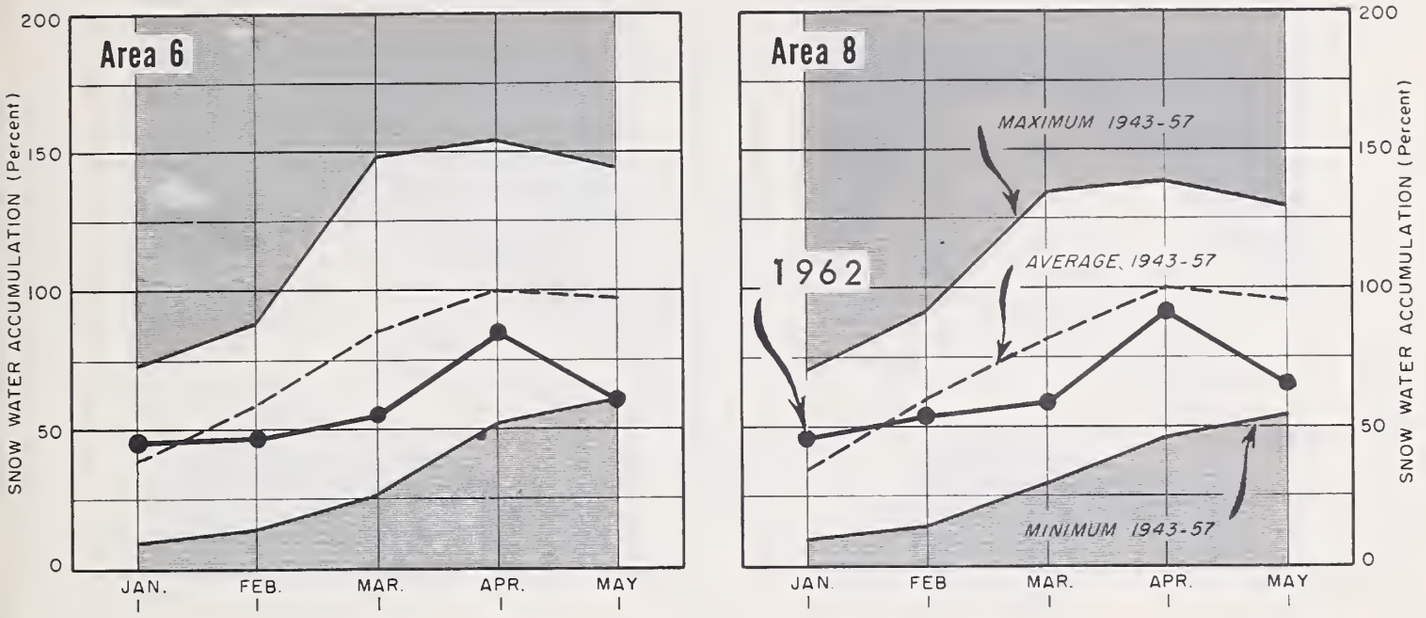
The old snow man didn't believe me---those dry soils in eastern Oregon soaked up from 3 to 5 inches of snow-melt water. See you later!

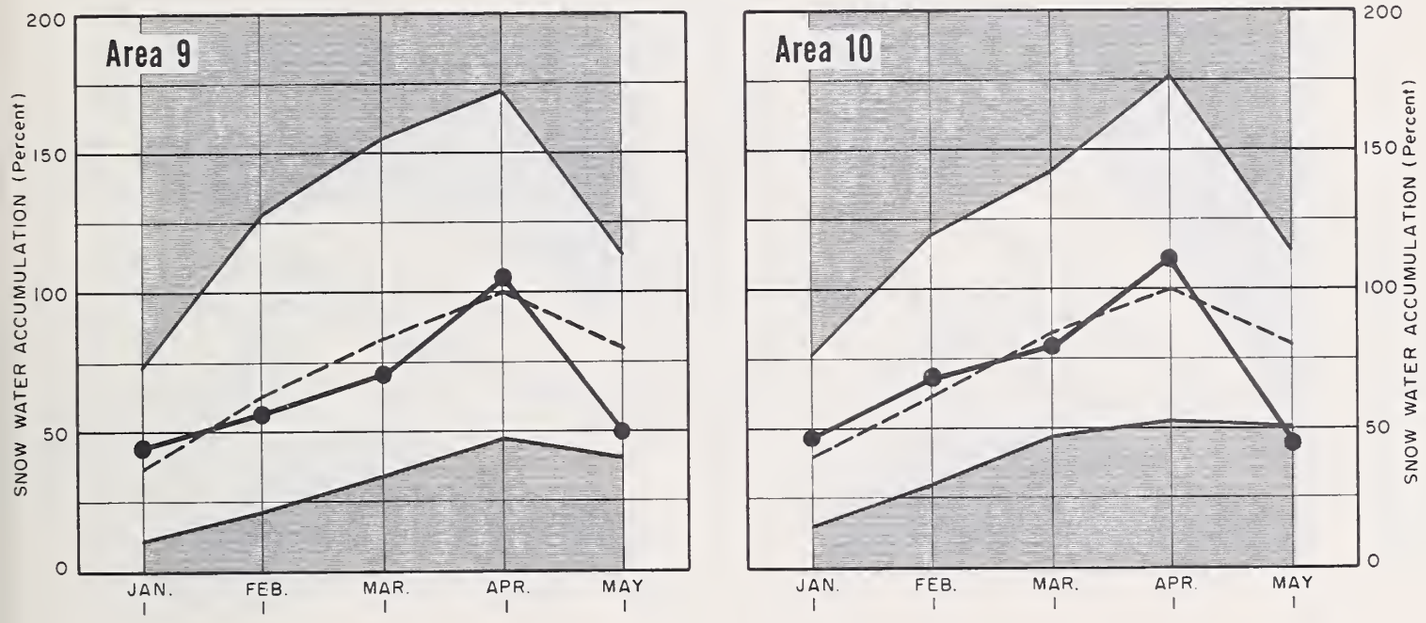
U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

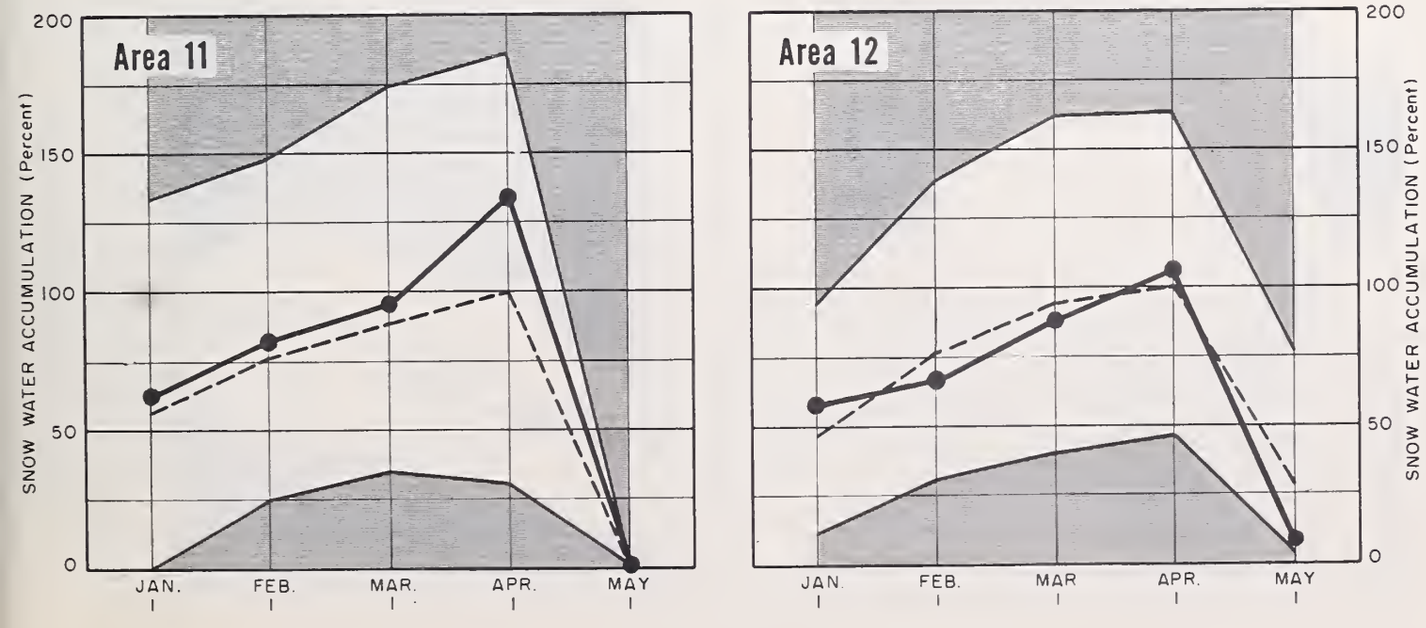
SNOW WATER ACCUMULATION in OREGON

(Percent of average maximum accumulation)

MAY 1, 1962





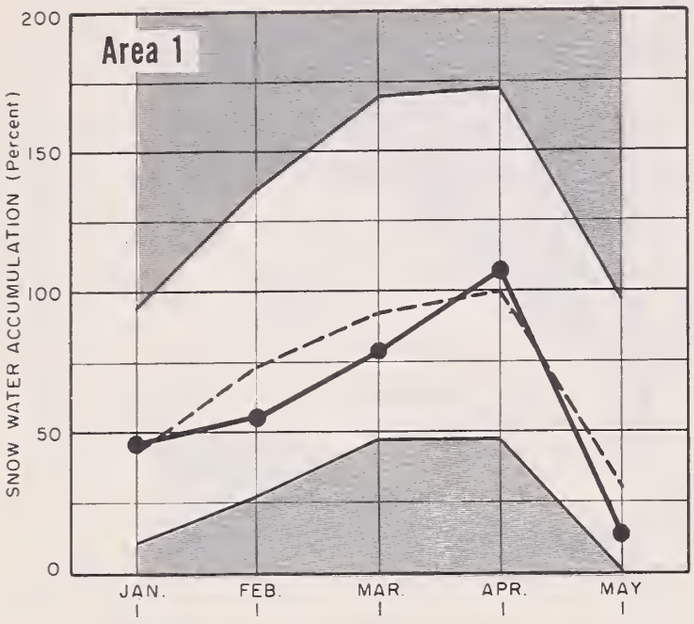


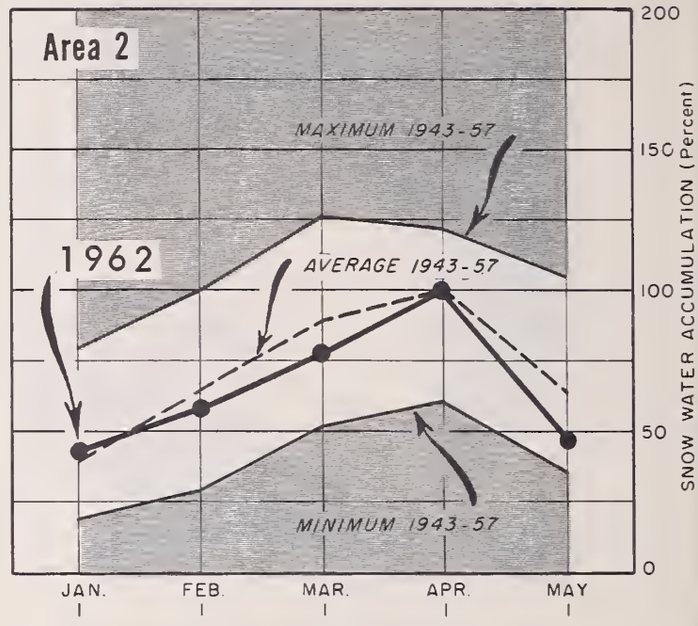
USDA-SCS-PORTLAND, ORE. 1961

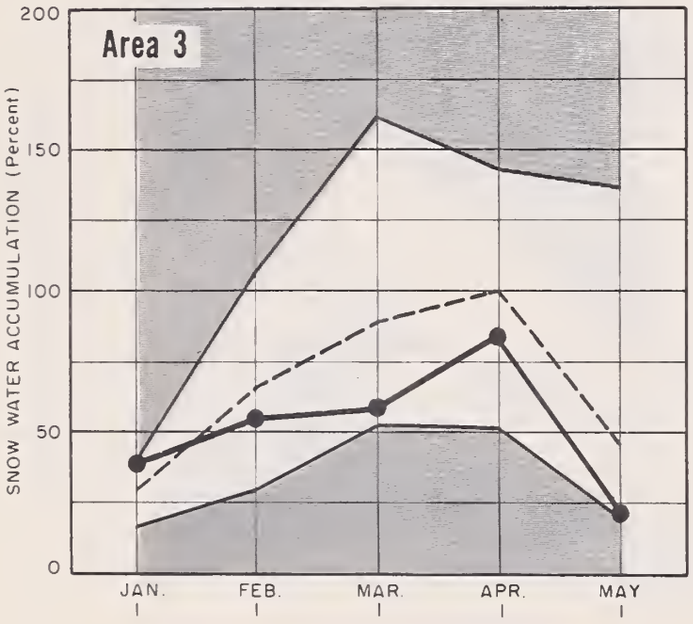
SNOW WATER ACCUMULATION in OREGON

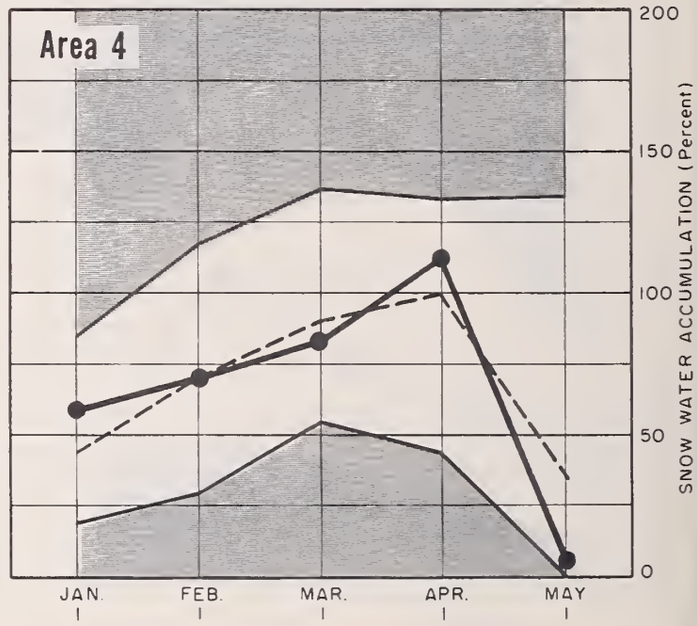
(Percent of average maximum accumulation)

MAY 1, 1962



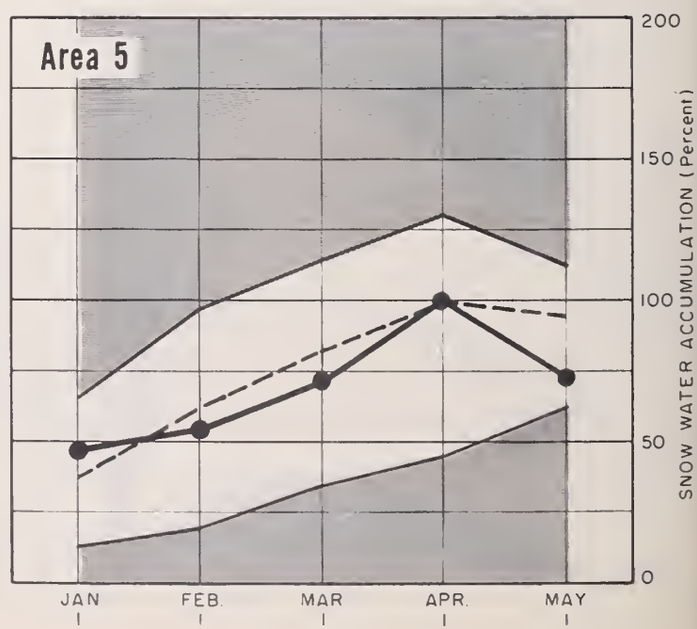






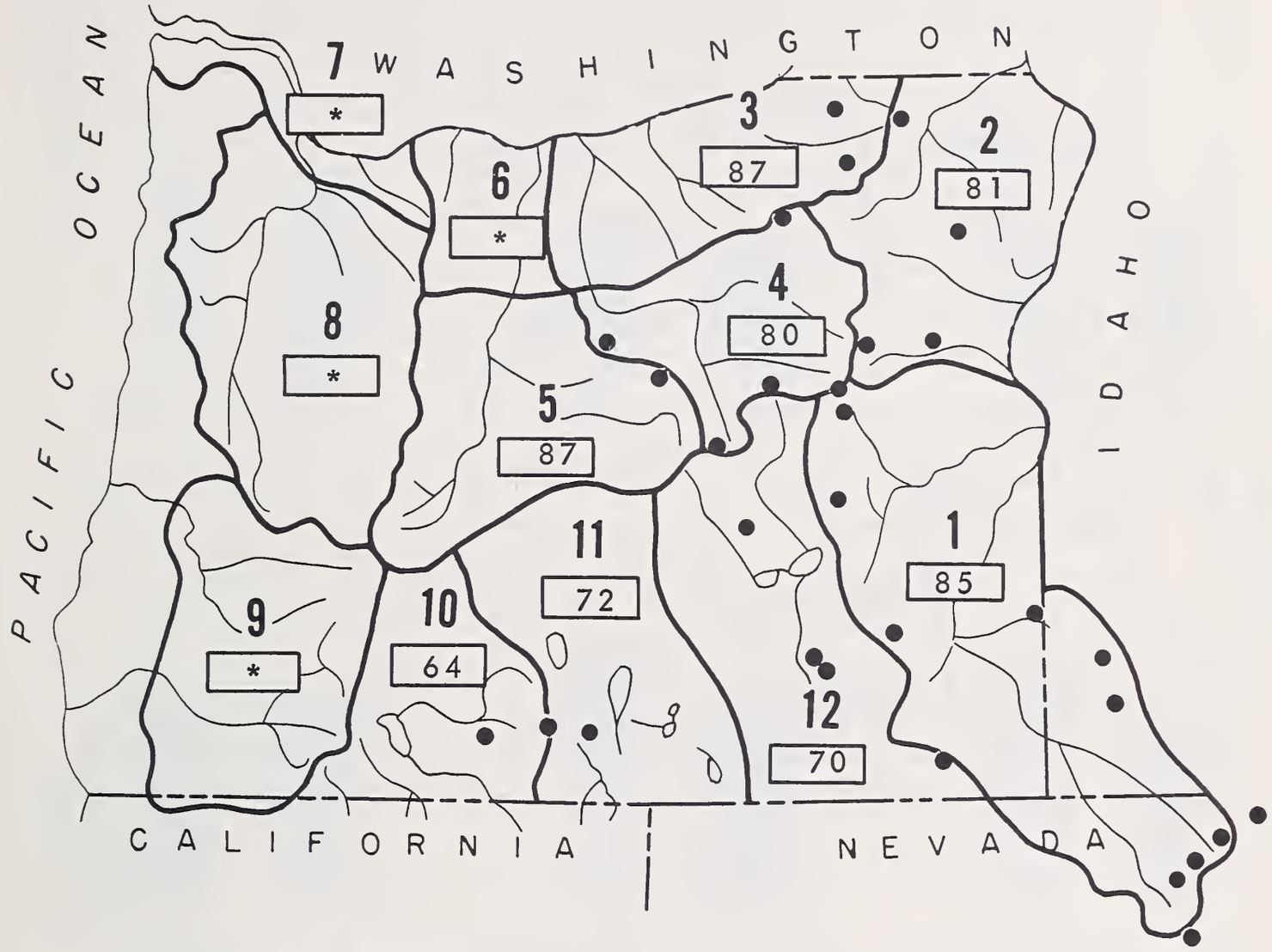
WATERSHED AREA LOCATIONS

AREA 1 . DRYHEE, MALHEUR WATERSHEDS
AREA 2 . BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
AREA 3 . UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
AREA 4 . UPPER JOHN DAY WATERSHEDS
AREA 5 . UPPER DESCHUTES, CROOKED, WATERSHEDS
AREA 6 . HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
AREA 7 . LOWER COLUMBIA WATERSHEDS
AREA 8 . WILLAMETTE WATERSHEDS
AREA 9 . ROGUE, UMPQUA WATERSHEDS
AREA 10 . KLAMATH WATERSHEDS
AREA 11 . LAKE COUNTY, GOOSE LAKE WATERSHEDS
AREA 12 . HARNEY BASIN WATERSHEDS



MOUNTAIN SOIL MOISTURE in OREGON
as percent of available capacity

MAY 1, 1962



● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON [a]

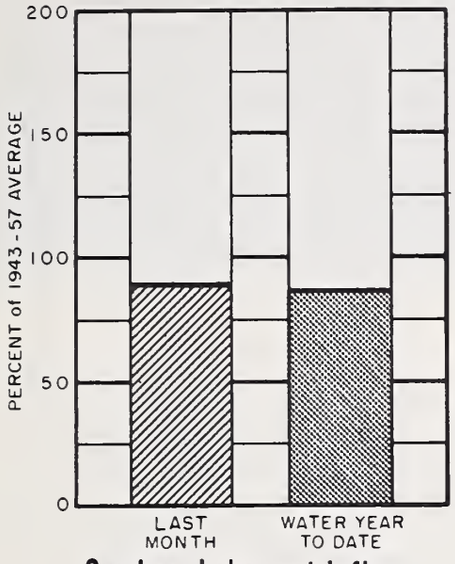
MAY 1, 1962

PRECIPITATION as PERCENT of the 1943-57 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker Apt.	133	131	Lakeview	56	101
Bend	122	107	Medford Apt.	89	80
Burns	32	117	Nyssa	84	99
Enterprise	41	104	Pendleton Apt.	64	74
Eugene Apt	174	105	Portland Apt.	155	80
Heppner	79	77	Roseburg Apt.	84	98
John Day	126	97	Salem Apt.	137	76
Klamath Falls Apt.	28	102	The Dalles	181	94

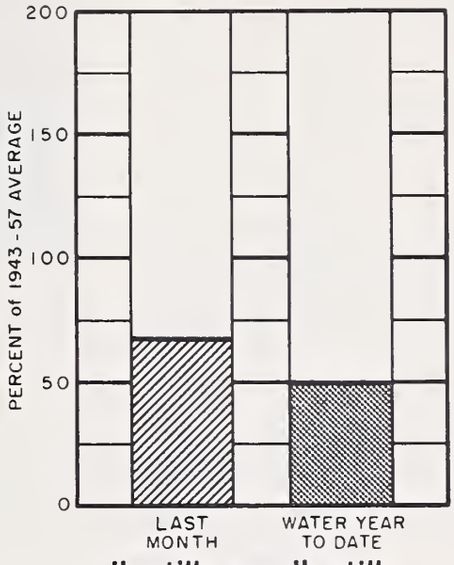
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

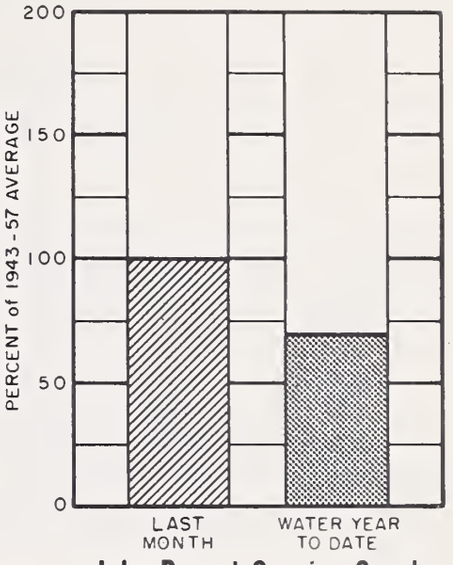
MAY 1, 1962



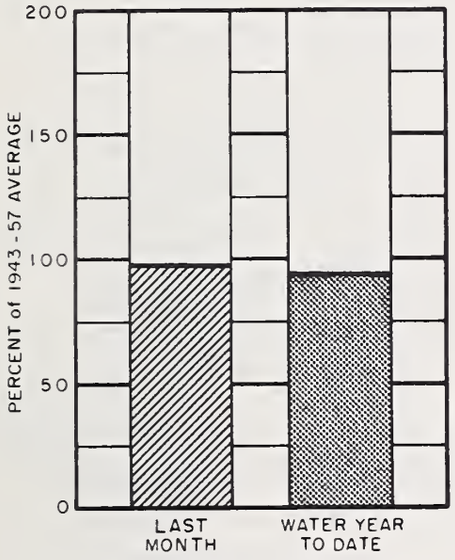
Owyhee Lake net inflow



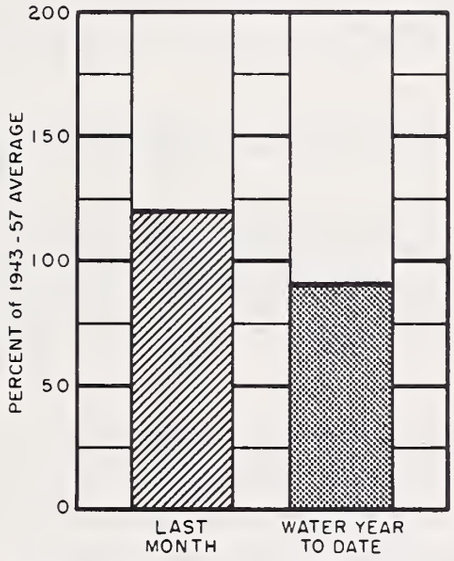
Umatilla near Umatilla



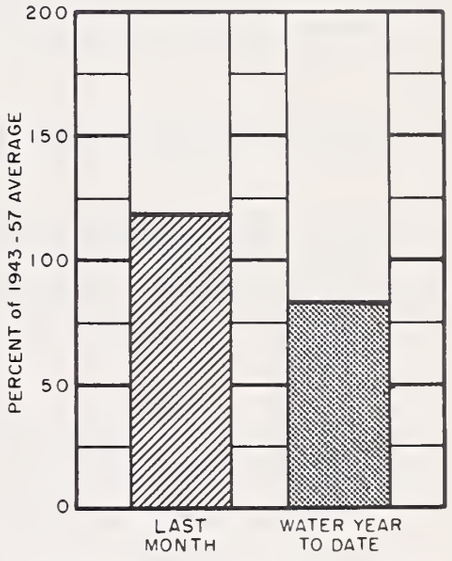
John Day at Service Creek



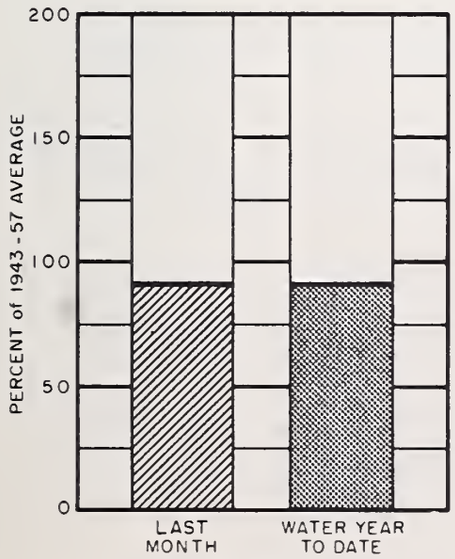
Deschutes at Moody



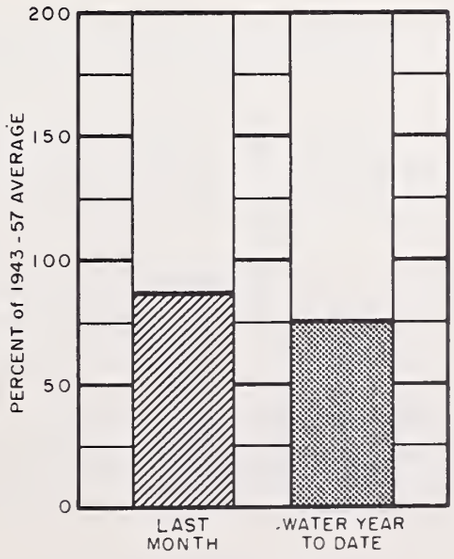
Hood and conduit near Hood River



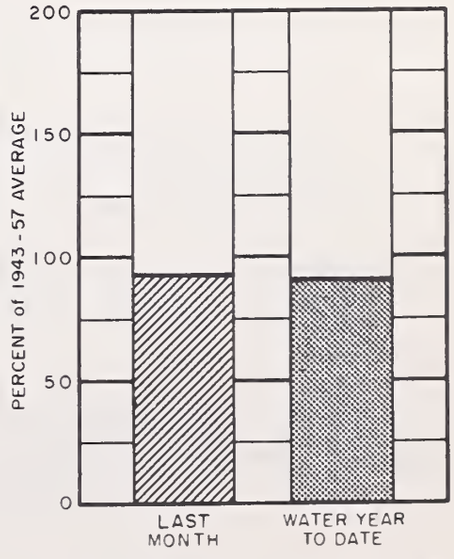
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The California Oregon Power Co.; and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - Malheur County irrigation water supplies will be adequate for lands served from Lake Owyhee but not so satisfactory for Malheur River water users. A warm and dry April produced heavy day-time thawing, somewhat offset by a freeze-up nearly every night. Unusual winds evaporated considerable snow water and the dry soils under the snow took a "heavy toll" of runoff.

SNOW COVER - The mountain snowpack has melted at an unusually fast rate and the water content of the remaining snow on the Malheur watershed is about half of the normal amount for the first of May.

The snowpack on the Owyhee watershed is about normal for May first but is 70 percent greater than a year ago.

SOIL MOISTURE - Mountain watershed soils have absorbed considerable snowmelt water from the April runoff, especially on the Malheur River watershed. About 3 to 4-1/2 inches of water were absorbed by soils in the Logan Valley vicinity between 5200 and 6000 feet elevation.

RESERVOIR STORAGE - Storage in Owyhee reservoir has reached 392,000 acre-feet compared with 344,000 acre-feet a year ago. This is still far below the May first average storage of 617,000 acre-feet. Present storage, coupled with expected inflow and pumping will be sufficient to furnish satisfactory water supplies on the Owyhee Project.

Combined storage in Agency Valley and Warmsprings reservoirs is 135,900 acre-feet compared with 106,600 a.f. last year on May 1.

STREAMFLOW - Estimated flow of the North Fork of the Malheur (at Beulah) for the April-September period has been reduced to 45,000 acre-feet or 70 percent of the 1943-57 average. About 21,000 acre-feet of this flow was received in April.

Flow of the Malheur near Drewsey is now forecast at 72,000 acre-feet or 89 percent average for the April-September period. A total of about 51,000 acre-feet of this amount has run off during April.

This will be a "tight" water supply. Extremely careful water management will need to be practiced by each water user if this year's additional 40,000 acre-feet of water is to stretch last year's early August shut-off date into a full season.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek		Fair
Bully Creek		Fair
Cow Creek		Fair
Jordan Creek		Fair
Jordan Valley Irrig. Dist.		Average
McDermitt Creek		Fair
Oregon Canyon Creek		Average
Owyhee Project		Average
Succor Creek		Fair
Ten Mile Creek		Average
Vale Oregon Irrig. Dist.		Fair
Warmsprings Irrig. Dist.		Fair
Willow Creek		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Agency Valley	60.0	44.7	40.0	54.0
Antelope	55.0	*f*	- -	29.8
Owyhee	715.0	391.9	344.2	617.5
Warmsprings	191.0	91.2	66.6	140.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
2140	Malheur near Drewsey	72	April-Sept.	81	89
		71	April-July	80	89
2175	Malheur, North Fork at Beulah[d]	45	April-Sept.	64	70
1825	Owyhee Reservoir net Inflow[g]	330	April-Sept.	430	77
		315	April-July	412	76

AVAILABLE SOIL MOISTURE

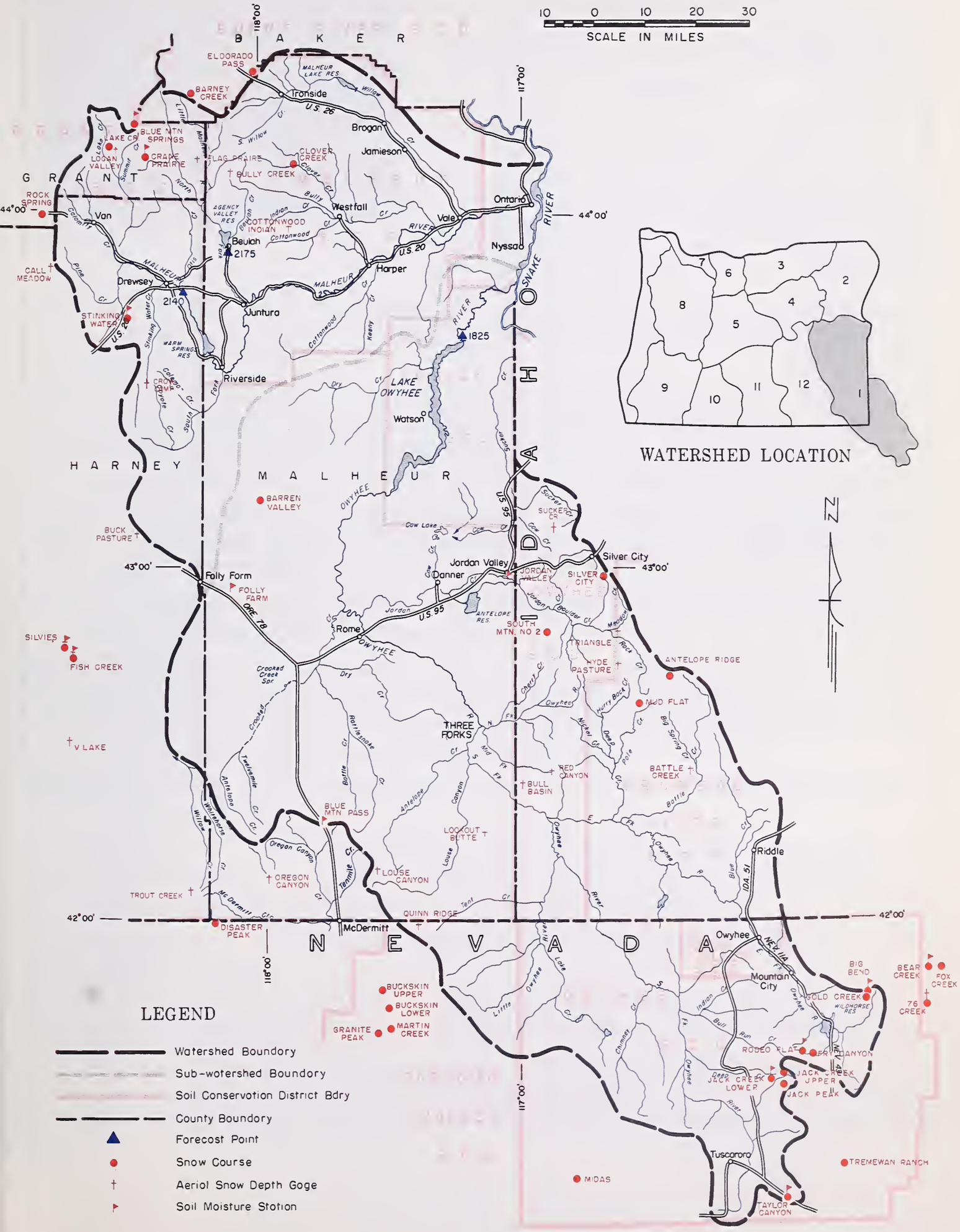
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	8.4	3-27-62	2.9[i]	- -	- -
Big Bend (Nev.)	6700	48	9.6	4-30-62	9.5	9.3	- -
Blue Mountain Springs	5900	42	12.0	4-30-62	9.5	6.5	8.4
Crane Prairie	5375	48	9.9	4-30-62	9.5	9.6	9.7
Folly Farm	4450	30	6.9	2-23-62	4.4[i]	- -	5.0
Jack Creek, Lower (Nev.)	6800	48	4.9	4-30-62	4.8	4.8	- -
Jordan Valley	4250	48	9.8	2-23-62	5.2[i]	- -	7.2
Rodeo Flat (Nev.)	6800	42	6.0	4-30-62	6.0	6.0	- -
Stinking Water Summit	4800	48	11.7	2-23-62	10.2[i]	- -	11.7
Taylor Canyon (Nev.)	6200	48	9.7	4-30-62	9.5	8.5	- -

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
					LAST YEAR	1943-57 AVERAGE
Antelope Ridge	5900	*c*				
Barney Creek	5950	*c*				
Battle Creek[e] (Ida.)	5700	*c*				
Bear Creek[e] (Nev.)	7800	4/30	61	25.1	12.6	21.2*
Big Bend (Nev.)	6700	5/1	0	0.0	0.0	1.6*
Blue Mountain Springs	5900	4/30	6	2.3	8.4	5.8**
Buck Pasture[e]	5700	*c*				
Buckskin, Lower (Nev.)	6700	*c*				
Buckskin, Upper (Nev.)	7200	*c*				
Bull Basin[e] (Ida.)	5600	*c*				
Bully Creek[e]	5300	*c*				
Call Meadows[e]	5340	*c*				
Clover Creek	4100	*c*				

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted average.

OWYHEE, MALHEUR WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Cottonwood-Indian [e]	4320	[c]				
Crane Prairie	5375	[c]				
Disaster Peak (Nev.)	6500	[c]				
Eldorado Pass	4600	4/27	0	0.0	- -	- -
Fish Creek	7900	[c]				
Flag Prairie [e]	4750	[c]				
Fox Creek (Nev.)	6800	[c]				
Fry Canyon (Nev.)	6700	5/1	0	0.0	0.0	1.3*
Gold Creek (Nev.)	6600	5/1	0	0.0	0.0	0.0*
Granite Peak (Nev.)	7800	[c]				
Hyde Pasture [e] (Ida.)	5800	[c]				
Jack Creek, Lower (Nev.)	6800	5/1	0	0.0	0.0	- -
Jack Creek, Upper (Nev.)	7250	5/1	0	0.0	0.0	4.0*
Jack Peak (Nev.)	8420	5/1	82	35.1	22.3	26.8*
Lake Creek	5120	[c]				
Logan Valley	5100	[c]				
Lookout Butte [e]	5650	[c]				
Louse Canyon [e]	6440	[c]				
Martin Creek (Nev.)	6700	[c]				
Midas (Nev.)	7200	[c]				
Mud Flat (Ida.)	5500	[c]				
Oregon Canyon [e]	6950	[c]				
Quinn Ridge [e]	6300	[c]				
Red Canyon [e]	6500	[c]				
Rock Spring	5100	4/27	0	0.0	0.0	- -
Rodeo Flat (Nev.)	6800	5/1	0	0.0	0.0	1.7*
Silver City (Ida.)	6400	4/29	12	3.9	2.8	7.3*
Silvies	6900	[c]				
South Mountain #2 (Ida.)	6340	[c]				
Stinking Water	4800	[h]				
Succor Creek [e] (Ida.)	6100	[c]				
Taylor Canyon (Nev.)	6200	5/1	0	0.0	0.0	0.0*
Tremewan Ranch (Nev.)	5700	5/1	0	0.0	0.0	0.0*
Triangle [e]	5150	[c]				
Trout Creek [e]	7800	[c]				
76 Creek [e] (Nev.)	7100	[c]				
"V" Lake [e]	6600	[c]				

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of
MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 water supply outlook for Baker, Union and Wallowa Counties has dimmed slightly during April but still remains near average for most streams in the area.

SNOW COVER - Unusually warm weather in April chased the snow cover far up the mountain. Water content of the snowpack as a whole is now 83 percent of average with most of it now lying above 6000 feet elevation. The snowpack in this area averages 16 percent less water content than was measured last year on May 1.

SOIL MOISTURE - Watershed soils absorbed as much as 3.9 inches of water or almost half of the snowmelt water at Blue Mountain Summit during April. This was water "stolen" from streamflow to replenish last summer's soil losses.

Soil moisture stations around the rim of this area now average 81 percent of capacity and 12 percent below last year on May 1.

RESERVOIR STORAGE - Unity reservoir is now full and has 25,800 acre-feet of water for later irrigation use. Wallowa Lake now has 20,100 acre-feet compared to 19,200 acre-feet on May 1 last year and an average of 18,700 usually reached by this time of year. There is no report on Thief Valley reservoir.

STREAMFLOW - Streamflow forecasts have been reduced on most streams of the area but remain near average.

Burnt River is now expected to flow about 38,000 acre-feet or 85 percent for the April-September period. About 20,800 acre-feet of this came in April, leaving about 17,000 acre-feet expected during the remainder of the season.

Powder River is forecast to flow 65,000 acre-feet or 98 percent of the April-September average.

The Grande Ronde at LaGrande is expected to flow 182,000 acre-feet or 90 percent and Catherine Creek near Union 72,000 acre-feet or 99 percent of average.

Wallowa tributaries are forecast as follows: Wallowa East Fork 99 percent; Hurricane 88 percent; Lostine 100 percent; Bear 100 percent; all for the April-September period. The Imnaha is expected to flow 105 percent of the average for this same period.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope		Average
Baker Valley		Average
Big Creek		Average
Clover Creek (nr. N. Powder)		Average
Cove		Average
Durkee		Fair
Eagle Valley		Average
Elgin		Average
Enterprise-Joseph		Average
Hereford-Bridgeport		Average
Imnaha River		Average
LaGrande-Island City		Fair
Lostine-Wallowa		Average
No. Powder River-Wolf Cr.		Average
Pine Valley		Average
Powder River-Elk Creek		Average
Summerville		Average
Sumpter Valley		Average
Union-Hot Lake		Average
Unity		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Unity	25.2	25.8	25.6	21.8
Wallowa Lake	37.5	20.1	19.2	18.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

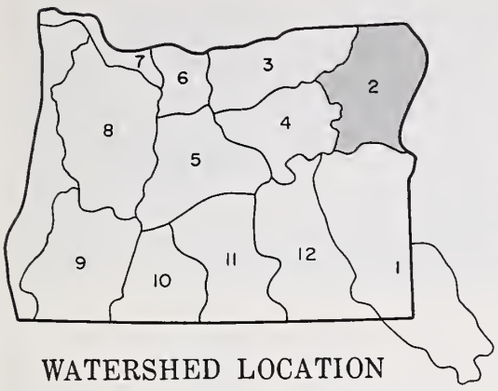
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
3305	Bear near Wallowa	74	April-Sept.	74	100
2730	Burnt near Hereford [d]	38	April-Sept.	45	85
		35	April-June	41	85
3200	Catherine near Union	72	April-Sept.	73	99
3190	Grande Ronde at LaGrande	182	April-Sept.	202	90
		180	April-July	199	90
3295	Hurricane near Joseph	43	April-Sept.	49	88
2920	Imnaha at Imnaha	330	April-Sept.	314	105
3300	Lostine near Lostine	133	April-Sept.	133	100
2755	Powder near Baker	65	April-Sept.	66	98
		63	April-July	65	97
3250	Wallowa, East Fork near Joseph [d]	12.0	April-Sept.	12.1	99
		9.7	April-July	9.7	100

AVAILABLE SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) AVAILABLE CAPACITY	SOIL MOISTURE (Inches) DATE	SOIL MOISTURE (Inches) THIS YEAR	SOIL MOISTURE (Inches) LAST YEAR	SOIL MOISTURE (Inches) 2 YEARS AGO
Blue Mountain Summit	5100	36	10.4	4-23-62	5.1	9.5	6.8
Emigrant Springs	3925	48	15.0	4-25-62	14.2	14.5	- -
Tollgate	5070	48	17.8	4-25-62	15.6	15.8	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Water content partly estimated. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted averages.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

WASHINGTON

46°00'

46°00'

117°00'

118°00'

SNAKE RIVER

UMATILLA

WALLOWA

OHO

UNION

GRANT

BAKER

MALHEUR

45°00'

45°00'

117°00'

118°00'

IDAHO

SNAKE RIVER

TOLLGATE

Looking Glass

Wenaha R

S Fk

Courtney

Mud Cr

Wallupa

Tope Cr

ORE 3

Joseph Cr

Chesnimnus Cr

Cherry Cr

Cow Lightning Cr

Swamp Cr

ORE 204

Elgin

Wallowa

Whisky Cr

Big Canyon

ORE 82

3305

3300

Lostine River

Enterprise

Prairie Cr

Joseph

3295

Hurricane Cr

Wallowa Lake

3250

Little Sheep Creek

Grouse Cr

Imnaha

3220

Camp Cr

Horse Cr

Summerville

Willow Cr

Indian Cr

Grande Ronde R

Clark Cr

Phillips

Ronde

Meadow Cr

MEACHAM

US 30

ORE 82

3190

La Grande

Cove

MOSS SPRING

STANLEY

BALD MTN.

Mill Cr

Starkey

Union

Little Catherine Cr

3200

ANEROID LAKE NO. 2

ANEROID LAKE NO. 1

LUCKY STRIKE

SCHOOLMARM

COUNTY LINE

BEAVER RES.

Jordan Cr

Rock Cr

Clark Cr

Beaver Cr

Wolf Cr

Clover Cr

Sheep Fly Cr

Meadow Cr

McCoy Cr

THIEF VALLEY RES.

TAYLOR GREEN

Medical Springs

North Powder

LITTLE ALPS

ANTHONY LAKE

Muddy Cr

N Powder River

Big Cr

Eagle Cr

Clear Cr

Pine Cr

SCHNEIDER MEADOWS

Haines

EILERTSON MEADOWS

Keating

Holfway

Pine

BOURNE

GOLD CENTER

GODDRICH LAKE

Boker

ORE 86

Richland

Sumpter

Elk Cr

Lookout Cr

Ruckles Cr

Goose Cr

Powder River

TIPTON

Lawrence Cr

Durkee Cr

Durkee

Daly

Sisley Cr

2755

BLUE MTN. SUMMIT

UNITY RES.

2730

ODDLEY MTN

Hereford

Burnt

Bridgeport

Unity

Dixie Cr

S Fk

N Fk

Camp Cr

Job Cr

BARNEY CREEK

ELDORADO PASS

Huntington

Birch Cr

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aerial Snow Depth Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Aneroid Lake #1	7480	5/3	81	40.0	35.7	41.2**
Aneroid Lake #2	7000	5/4	60	31.8	26.8	30.4**
Anthony Lake	7125	4/26	60	31.2	28.0	- -
Bald Mountain [e] (Ore.)	6700	4/29	53	22.8	- -	- -
Barney Creek	5950	[c]				
Beaver Reservoir	5340	4/26	9	3.6	6.1	7.3**
Blue Mountain Summit	5098	4/23	1	0.4	0.0	1.5**
Bourne	5800	4/25	8	3.2	8.8	- -
County Line	4800	[c]				
Dooley Mountain	5430	4/23	0	0.0	0.0	- -
Eilertson Meadows	5400	4/28	0	0.0	0.0	- -
Eldorado Pass	4600	4/27	0	0.0	- -	- -
Gold Center	5340	4/25	0	0.0	1.0	- -
Goodrich Lake	6775	[h]				
Little Alps	6200	4/26	26	9.8	10.4	- -
Lucky Strike	5050	4/24	13	4.8	7.2	- -
Meacham	4300	4/25	0	0.0	0.6	2.6**
Moss Spring	5850	4/27	30	12.9	20.5	- -
Schneider Meadows	5400	4/27	48	22.4	26.7	- -
Schoolmarm	4775	[c]				
Standley [e]	7400	4/26	54	23.2	38.6	- -
Taylor Green	5740	[c]				
Tipton	5100	4/23	0	0.0	0.0	1.8**
Tollgate	5070	4/25	19	9.2	18.9	18.1**

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of
MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - The 1962 water supply outlook for the Umatilla-Walla Walla area has been dimmed slightly by a warm, dry April and is now fair to near average. The snowpack melted much faster than usual and dry soils soaked up some of the melt water. McKay water users will very likely have less water than last year with little, if any, carryover at the end of the season.

SNOW COVER - Snow cover was almost wiped out by a warm, dry April. Water content of the snowpack is now only 41 percent of the May 1 average and only half what was on the watershed at this time last year.

SOIL MOISTURE - Moisture stations on the higher watersheds absorbed about 1.5 inches of water from the melting snow during April. Athena-Weston moisture station lost 1.2 inches of water from the top 18 inches of soil causing the area average to remain at 87 percent of capacity.

RESERVOIR STORAGE - McKay reservoir now holds 47,700 acre-feet of water compared with 62,600 acre-feet at this time last year and 66,400 acre-feet for the May 1 average, 1943-57. Cold Springs has not been drawn down and remains full.

STREAMFLOW - The flow of the Umatilla River near Umatilla* was only 66 percent of the April average and only 49 percent for the October-April period.

Forecasts of streamflow on the Umatilla have been reduced. The Umatilla at Pendleton is now expected to flow 165,000 acre-feet or 88 percent of average for the April-September period. At Gibbon the flow is expected to be 89 percent of average or 85,000 acre-feet.

The inflow to McKay Reservoir is now expected to be 25,000 acre-feet or 81 percent of average for the April-September period. About half of this amount was received in April. McKay water users should have a total of about 60,000 acre-feet for the season if current forecasts prove accurate. This will be less than last year's supply of 69,000 acre-feet and careful water management must be practiced by all water users if McKay water is to last the full irrigation season.

The South Fork of the Walla Walla* flowed about 106 percent of the 1943-57 April average. The forecast of streamflow April through September on this stream remains at 86 percent of average or 65,000 acre-feet; about 19,000 of this came during April.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek		Fair
Butter Creek		Fair
Dry Creek		Fair
Dugger Creek		Fair
Johnson Creek		Fair
McKay Creek		Fair
Mill Creek		Fair
Mud Creek		Fair
Pine Creek		Fair
Rhea Creek		Fair
Rock Creek		Fair
Umatilla River (Cold Springs Res.)		Average
Umatilla River, Main		Average
Umatilla River (McKay Res.)		Fair
Walla Walla River, Little		Fair
Walla Walla River, Main		Fair
Walla Walla River, N. Fork		Fair
Walla Walla River, S. Fork		Fair
Willow Creek		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cold Springs	50.0	50.0	50.0	48.8
McKay	73.8	47.7	62.6	66.4

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0225	McKay near Pilot Rock	25	April-July	31	81
0200	Umatilla near Gibbon	85	April-Sept.	96	89
0210	Umatilla at Pendleton	165	April-Sept.	187	88
		160	April-July	182	88
0100	Walla Walla, South Fork near Milton	65	April-Sept.	76	86
		55	April-July	62	89

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	11.8	4-25-62	8.7	9.3	- -
Battle Mountain Summit	4340	48	8.0	4-25-62	7.5	7.3[g]	- -
Emigrant Springs	3925	48	15.0	4-25-62	14.2	14.5	- -
Tollgate	5070	48	17.8	4-25-62	15.6	15.8	- -

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Arbuckle Mountain	5400	4/30	0	0.0	0.0	- -
Battle Mountain Summit	4340	4/25	0	0.0	- -	- -
Emigrant Springs	3925	4/25	0	0.0	1.0	1.6**
Lucky Strike	5050	4/24	13	4.8	7.2	- -
Meacham	4300	4/25	0	0.0	0.6	2.6**
Tollgate	5070	4/25	19	9.2	18.9	18.1**

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Nearest current data. (h) Partly estimated. (**) Average for 5 or more years in base period.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station

WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of
MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 irrigation water supply outlook has dropped slightly but still remains near average. All but the highest snowpack disappeared in April producing only average streamflow.

SNOW COVER

The water content of the snowpack is only 23 percent of the May 1 average and slightly less than last year at this time. Snow remains only on the higher elevations of the area.

SOIL MOISTURE

Watershed soils absorbed as much as 4.5 inches of water at Blue Mountain Springs during April. Above normal precipitation which fell as rain and melted the snowpack was soaked up by previously dry soils. Mountain watershed soils now average 80 percent of capacity in this area. This is only 2 percent less than last year and only 5 percent less than two years ago on May 1st.

STREAMFLOW

Flow of the John Day at Service Creek* was average for April but has been only 69 percent for the October-April period.

Streamflow forecasts for the April-September period have been reduced 6 to 12 percent as a result of the rapid decline of an above average April 1 snowpack without similar increases in streamflow.

The John Day at Prairie City is now expected to flow 52,000 acre-feet or 96 percent of average for the April-September period.

Strawberry Creek is forecast to flow 8,900 acre-feet or 98 percent of average.

The John Day, Middle Fork at Ritter, is expected to flow 131,000 acre-feet or 97 percent of average.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon

Report prepared by
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209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek		Average
Beech Cr.-Fox-Long Crs.		Average
Bridge-Mountain Creeks		Average
Camas Creek		Average
Cherry Creek		Average
Indian-Pine Creeks		Average
John Day River, Main Fork		Average
John Day River, Md. Fork		Average
John Day River, N. Fork		Average
John Day River, S. Fork		Average
Monument-Kimberly		Average
Strawberry Creek		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0385	John Day at Prairie City	52	April-Sept.	54	96
		47	April-July	49	96
0440	John Day, Middle Fork at Ritter	131	April-Sept.	135	97
		127	April-July	131	97
0375	Strawberry near Prairie City	8.9	April-Sept.	9.1	98

AVAILABLE SOIL MOISTURE

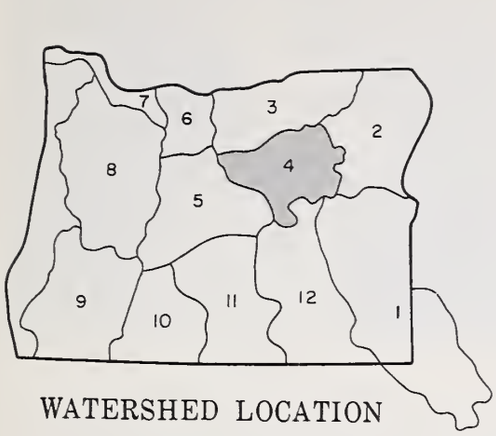
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	8.0	4-25-62	7.5	7.3[h]	- -
Blue Mountain Springs	5900	42	12.0	4-30-62	9.5	6.5	8.4
Blue Mountain Summit	5100	36	10.4	4-23-62	5.1	9.5	6.8
Marks Creek	4540	36	8.3	4-26-62	7.5	7.7	8.2
Snow Mountain	6300	48	10.4	3-20-62	8.7[h]	- -	- -
Starr Ridge	5150	36	6.1	4-29-62	5.7	5.2	5.8

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	1943-57 AVERAGE
Anthony Lake	7125	4/26	60	31.2	28.0	- -
Arbuckle Mountain	5400	4/30	0	0.0	0.0	- -
Battle Mountain Summit	4340	4/25	0	0.0	- -	- -
Beech Creek Summit	4800	4/29	0	0.0	0.0	- -
Blue Mountain Spring	5900	4/30	6	2.3	8.4	5.8**
Blue Mountain Summit	5098	4/23	1	0.4	0.0	1.5**
Derr	5670	c				
East Fork Canyon[e]	5700	5/1	0	0.0	- -	- -
Gold Center	5340	4/25	0	0.0	1.0	- -
Indian Creek Butte[e]	6550	5/1	22	8.8	- -	- -
Izee Summit	5293	4/29	0	0.0	0.0	1.6**
Lucky Strike	5050	4/24	13	4.8	7.2	- -
Marks Creek	4540	4/26	0	0.0	0.0	- -
Ochoco Meadows	5200	c				
Olive Lake	6000	4/30	40	16.6	13.6	- -
Schoolmarm	4775	c				
Snow Mountain	6300	c				
Starr Ridge	5150	4/29	0	0.0	0.0	0.9**
Tipton	5100	4/23	0	0.0	0.0	1.8**
Williams Ranch	4500	5/1	0	0.0	- -	- -

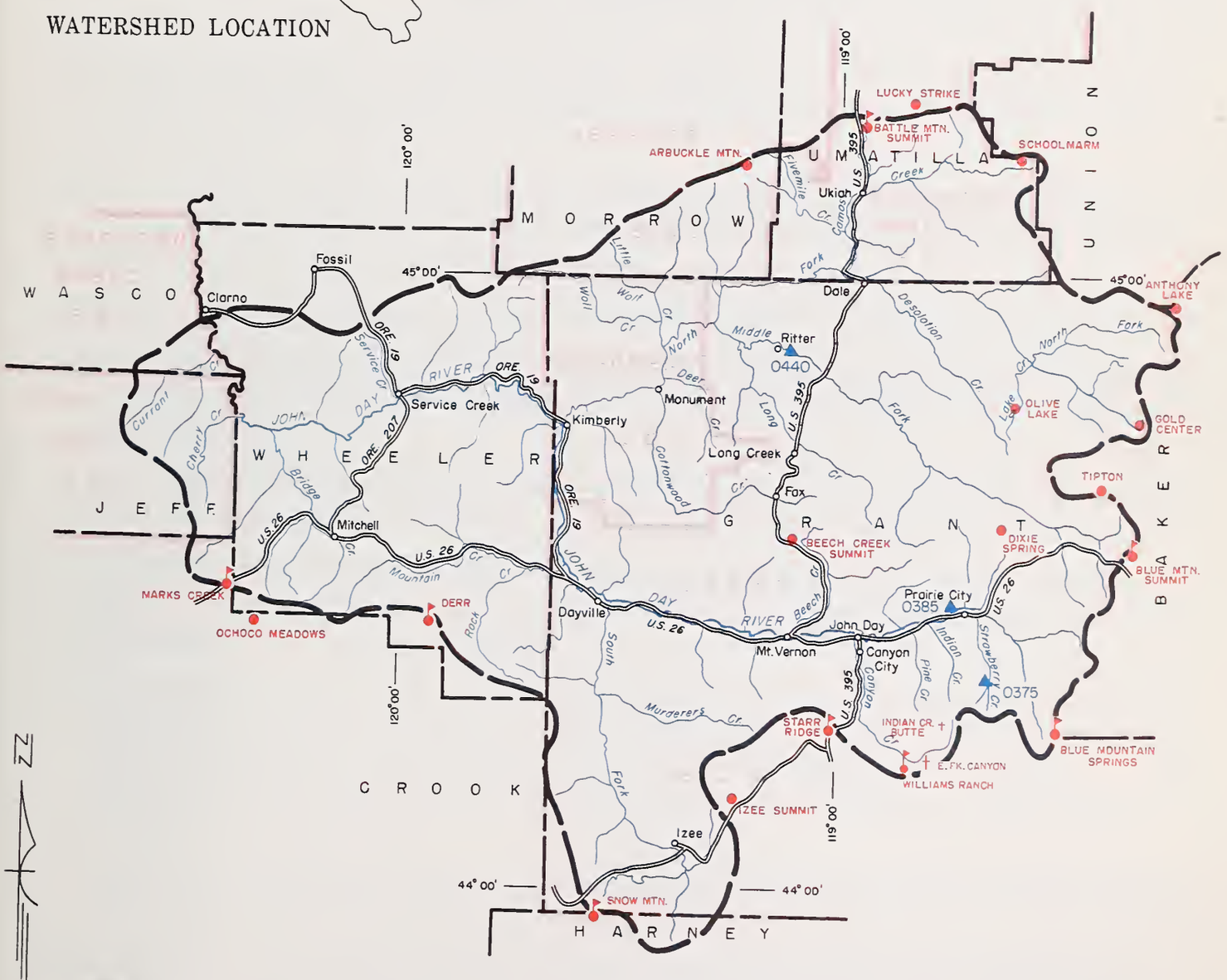
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Nearest current data. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aerial Snow Depth Gage

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - Satisfactory water supplies are now assured for all irrigated lands in Deschutes, Crook and Jefferson Counties in spite of the unusually rapid April snowmelt runoff.

SNOW COVER - Water content of the mountain snowpack on the upper Deschutes is now 22 percent below average but about equal to last year at this date. Snow cover on the Crooked watershed is nearly all gone.

SOIL MOISTURE - Watershed soils are well wetted and are continuing to produce runoff.

RESERVOIR STORAGE - Three major irrigation reservoirs on upper Deschutes River now contain the same amount of water as last year on May 1st but 18 percent greater than average.

On Crooked River watersheds the present stored water is greater than ever previously recorded with both Ochoco and Prineville reservoirs nearly filled.

Excellent management of these two reservoirs has prevented serious downstream flooding and at the same time these reservoirs are now reaching capacity at the beginning of the irrigation season.

Although there was well over 3000 second-feet of water flowing in the river above Prineville reservoir on April 6, 7 and 8, there was no more than 1500 second-feet flowing immediately below the dam at any time. Therefore, a flood peak of at least 3000 second-feet was cut in half to protect downstream property in the City of Prineville and elsewhere.

More than 85,000 acre feet of water was passed through Prineville reservoir to maintain space for the flood control operation.

STREAMFLOW - The main Deschutes at Benham Falls is forecast to flow 550,000 acre-feet or 91 percent average in the April through September period. Little Deschutes should flow 90 percent of average.

Squaw and Tumalo Creeks are forecast at 102 and 100 percent of average for the six-month irrigation season.

Crooked River near Post is forecast at 155,000 acre feet or 120 percent average and Ochoco inflow is forecast at 37,000 a.f. or 110 percent average.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District		Average
Bear Creek		Average
Beaver Creek		Average
Camp Creek		Average
Central Ore. Irrig. Dist.		Average
Crooked River		Average
Deschutes River		Average
Hay-Trout Creeks		Average
Lone Pine Irrig. Dist.		Average
Mill Creek		Average
North Unit Irrig. Dist.		Average
Ochoco Creek		Average
Plainview-McCallister		Average
Sisters Irrigation Dist.		Average
Snow Creek Irrig. Dist.		Average
Squaw Creek Irrig. Dist.		Average
Swalley Ditch		Average
Tumalo Project		Average
Walker Basin Irrig. Dist.		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Crane Prairie	55.3	36.3	35.6	47.6
Crescent Lake	117.2	46.8	46.6	47.1
Ochoco	47.5	42.2	27.6	39.7
Prineville	153.0	147.7	- -	- -
Wickiup	182.0	194.1	193.7	140.4

Note: The U. S. Bureau of Reclamation indicates that dead storage in the amount of 5360 acre-feet may be included in the current storage figure for Crescent Lake.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	131	April-Sept.	143	92
0600	Crescent at Crescent Lake [d]	28	April-Sept.	41	90
		22	April-July	25	88
0795	Crooked near Post	155	April-Sept.	129	120
		152	April-July	127	120
0645	Deschutes at Benham Falls [d]	550	April-Sept.	602	91
		360	April-July	404	89
0500	Deschutes below Snow Creek	69	April-Sept.	74	93
0630	Deschutes, Little near Lapine [d]	102	April-Sept.	113	90
		90	April-July	100	90
0848	Ochoco Reservoir net Inflow	37	April-July	34	110
0555	Odell near Crescent	32	April-Sept.	34	94
0750	Squaw near Sisters	56	April-Sept.	55	102
0730	Tumalo near Bend [d]	55	April-Sept.	55	100

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Marks Creek	4540	36	8.3	4-26-62	7.5	7.7	8.2
Snow Mountain	6300	48	10.4	3-20-62	8.7 [h]	- -	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (h) Nearest current data.

UPPER DESCHUTES, CROOKED WATERSHEDS

Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Plack Pine Spring	4600	4/30	0	0.0	0.0	0.8**
Caldwell Ranch	4400	c				
Cascade Summit	4880	4/27	46	20.2	18.5	31.8**
Chemult	4760	4/25	0	0.0	- -	0.5**
Derr	5670	c				
Fire Road	5050	4/23	0	0.0	0.0	- -
Hogg Pass	4755	4/27	88	41.2	36.5	53.5**
Hungry Flat	4400	4/27	0	0.0	0.0	0.0**
Irish-Taylor	5500	c				
Marks Creek	4540	4/26	0	0.0	0.0	- -
Mowich	4700	4/24	0	0.0	0.0	- -
New Crescent Lake	4800	4/24	0	0.0	1.9	6.3**
New Dutchman Flat No. 2	6400	4/27	112	53.4	55.3	59.0*
Ochoco Meadows	5200	c				
Paulina Lake	6330	4/23	31	14.1	18.5	- -
Paulina Prairie	4285	4/23	0	0.0	0.0	- -
Snow Mountain	6300	c				
Tamarack	4800	c				
Tangent	5400	4/27	12	5.2	16.4	11.9*
Three Creeks Butte	5200	4/30	0	0.0	0.0	- -
Three Creeks Meadows	5600	4/30	38	16.4	12.9	16.8**
Waldo Lake	5500	c				
Willamette Pass	5600	4/24	85	39.0	39.1	45.9*
Windigo Pass	5800	4/24	90	42.7	44.5	52.5**

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of
MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The irrigation water supply outlook for the Hood River-Wasco County area has improved slightly and is now only slightly below average. Heavy April precipitation contributed to immediate runoff but removed much of the valuable snowpack which is counted on for late season streamflow.

SNOW COVER

Water content of the mountain snowpack is 38 percent below average for May 1 and is 21 percent less than last year. However, end-of-the-month storms added many inches of moisture to the snowpack above 6000 feet elevation on Mt. Hood.

SOIL MOISTURE

Watershed soils are all primed to near moisture capacity and will facilitate runoff from remaining snowmelt.

RESERVOIR STORAGE

Clear Lake reservoir is reported to have 6,100 acre-feet in storage compared with 7,400 last year on this date.

STREAMFLOW

Flow of Hood River* during April increased to 120 percent average due to excess precipitation and snowmelt.

Forecast of the flow of Hood River near Hood River has been raised 5 percent and is now 93 percent for the April-September period. Similarly, flow of the West Fork is expected to be 95 percent of average.

White River is now expected to flow 96 percent of average in the 6 month irrigation season.

Rock, Gate, Threemile, Badger, Mosier, Mill, Fivemile, Eightmile and Fifteenmile Creeks should have better flows than last season.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch		Average
Badger Creek		Fair
Dee Irrigation Dist.		Average
East Fork Irrig. Dist.		Average
Farmers Irrig. Dist.		Average
Hood River Irrig. Dist.		Average
Juniper Flat Irrig. Dist.		Average
Middle Fork Irrig. Dist.		Average
Mile Creeks		Fair
Mill Creek		Fair
Mount Hood Irrig. Dist.		Average
Rock-Gate-Threemile Crs.		Fair
Tygh Creek		Fair
White River		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	- -	6.1	7.4	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
1210	Hood near Hood River[d]	340	April-Sept.	365	93
		292	April-July	311	94
1185	Hood, West Fork near Dee	165	April-Sept.	174	95
		145	April-July	151	96
1015	White below Tygh Valley	170	April-Sept.	178	96
		155	April-July	161	96

SNOW

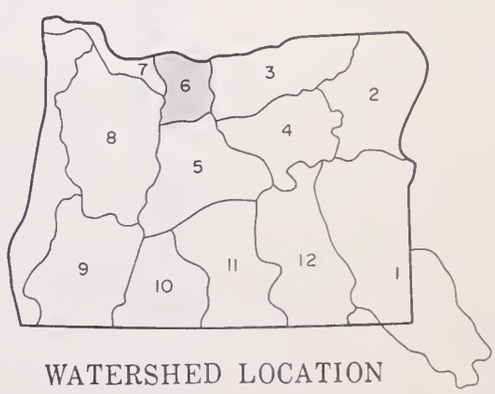
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Brooks Meadows	4300	c				
Clear Lake	3500	4/26	0	0.0	0.0	11.8**
Clear Lake Experimental	3500	4/26	6	2.9	4.5	- -
Cooper Spur	3490	c				
Greenpoint Reservoir	3400	c				
Knebal Springs	3850	c				
Parkdale	1770	c				
Phlox Point	5600	4/26	114	53.3	66.4	71.4**
Red Hill	4400	c				
Still Creek	3700	4/26	26	11.6	14.8	21.2**
Tilly Jane	6000	c				
Ulrich Ranch Junction	3350	c				
Upper Valley	2530	c				

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for spring and summer flow of the Columbia River near The Dalles has dropped slightly as a result of light spring rains in April. The river is forecast to flow 97.6 million acre feet, which is 92 percent of the 15 year normal (1943-57) for the April-September period.

SNOW COVER

Snow courses measured near May 1st indicate that snowmelt was much faster than normal. Practically all snow courses measure well below average at this time.

SOIL MOISTURE

Soil moisture conditions are changing fast as a result of snowmelt. Measurements now indicate that the soil under the snow is absorbing snow water in amounts and rates greater than usual. This was expected on many rivers as a result of relatively dry soil beneath the snowpack.

Low elevation soil moisture sites have already begun to dry out, whereas the high elevation sites in many cases will absorb additional snow water before they are saturated.

STREAMFLOW

Flow of the Columbia River near The Dalles* has been below normal since October but April flow, adjusted for storage, is up to 110 percent of the 1943-57 average.

Month	Percent of Normal Discharge (1943-57)
October	91 adjusted for storage
November	80 " " "
December	73 " " "
January	82 " " "
February	98 " " "
March	83 " " "
April	110 " " "

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon

Report prepared by
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STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
1057	Columbia at The Dalles	97,600	April-Sept.	106,100	92
		66,250	April-June	72,000	92

HISTORICAL DATA (Columbia River at The Dalles)

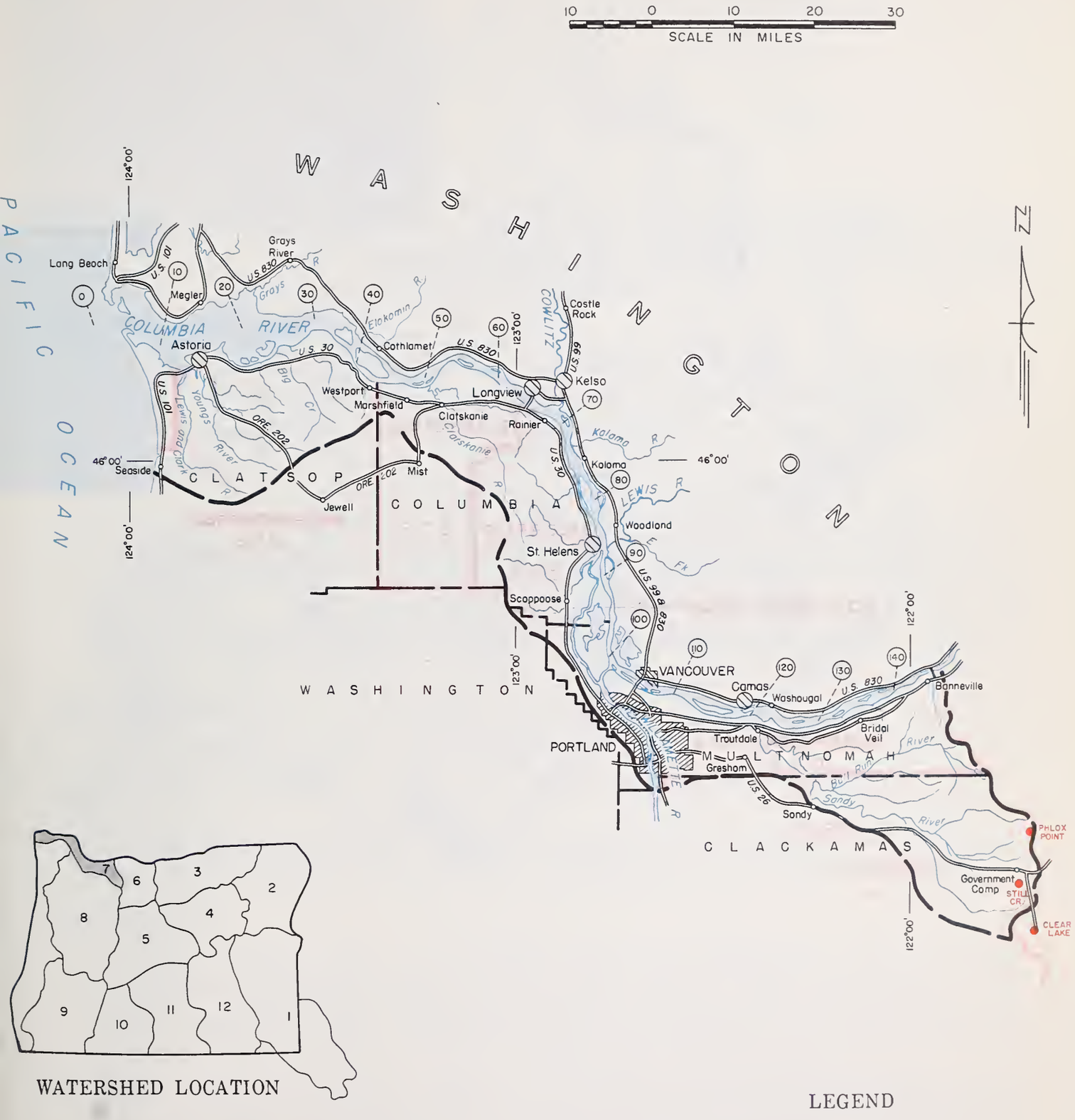
YEAR	STREAMFLOW[c] (1,000 A.F.) APR.— SEPT.	APR. — JUNE	MAY — JUNE	PEAK[e] (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1943-57 Avg.	106,100	72,000	58,100	616	
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)[f]

VANCOUVER[g] GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L.. All other readings are in feet above M.S.L.

LOWER COLUMBIA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- (50) River Miles
- Snow Course

Lower Columbia Watersheds

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of
MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 water supply outlook for the Willamette Valley has improved slightly during April and remains near average. Above normal precipitation over most of the valley resulted in 4 to 9 percent increases in streamflow forecasts.

SNOW COVER

Snow measurements taken at key courses on the Cascades indicate snow cover receded faster than usual during April leaving the pack about 30 percent below the average for May 1. These figures do not reflect increases received during the last two or three days of the month. A heavy storm occurring on the last weekend of April increased the snow water on some high elevation courses as much as 5 to 10 percent.

SOIL MOISTURE

Watershed soils as of now are well primed.

RESERVOIR STORAGE

Six multi-purpose reservoirs in the Willamette Basin are nearing capacity according to a prearranged flood control plan administered by the Corps of Engineers.

STREAMFLOW

Streamflow during April on the Middle Fork of the Willamette* was 117 percent of average and has been 81 percent of average for the October-April period. This stream is expected to flow 983,000 acre-feet or 108 percent for the April-September period. About 312,000 acre-feet of this amount came in April.

Other streamflow forecasts raised 4 to 9 percent for the April-September period and now range from 88 percent of average for the Clackamas at Big Bottom to 105 percent for the McKenzie at McKenzie Bridge and the Willamette at Salem.

The Santiam is now expected to flow 103 percent of average and the Willamette at Salem forecast is now 105 percent or 5,735,000 acre-feet for the April-September period.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya		Fair
Clackamas		Fair
McKenzie		Average
Molalla		Average
Santiam, North		Average
Santiam, South		Average
Willamette, Coast Fork		Average
Willamette, Middle Fork		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottage Grove	30.8*	25.0	23.1	27.0
Detroit	299.9*	273.7	271.3	189.5
Dorena	70.5*	59.6	55.5	52.4
Fern Ridge	94.2*	91.8	88.4	82.6
Hills Creek Res.	249.0*	180.0	- -	- -
Lookout Point	337.2*	300.3	294.1	- -

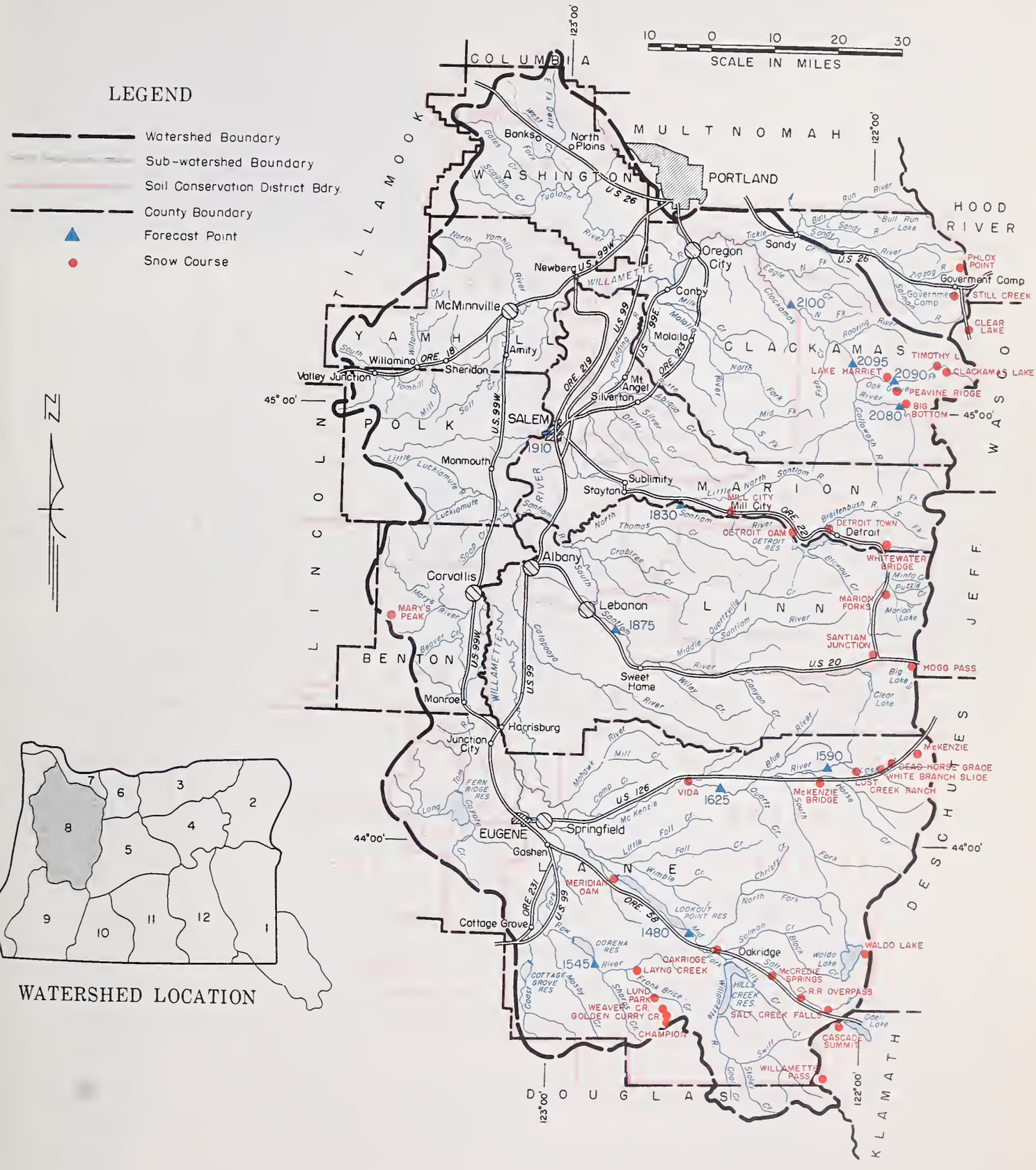
*Multiple purpose reservoir-- space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
2080	Clackamas at Big Bottom	161	April-Sept.	184	88
		130	April-July	150	87
2100	Clackamas at Estacada	810	April-Sept.	879	92
		705	April-July	763	92
2095	Clackamas above Three Lynx	630	April-Sept.	674	93
		537	April-July	578	93
1590	McKenzie at McKenzie Bridge	675	April-Sept.	640	105
		520	April-July	488	107
1625	McKenzie near Vida	1407	April-Sept.	1362	103
		1167	April-July	1120	104
2090	Oak Grove Fork above Power Intake	181	April-Sept.	198	91
		142	April-July	156	91
1545	Row near Dorena	115	April-Sept.	114	101
		110	April-July	109	101
1830	Santiam, North at Mehama[d]	990	April-Sept.	968	102
		890	April-July	866	103
1875	Santiam, South at Waterloo	668	April-Sept.	652	102
		635	April-July	616	103
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	983	April-Sept.	909	108
		868	April-July	804	108
1910	Willamette at Salem[d]	5735	April-Sept.	5461	105
		5240	April-July	4942	106

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Big Bottom	2118	4/29	0	0.0	0.0	2.2**
Cascade Summit	4880	4/27	46	20.2	18.5	31.8**
Champion	4500	4/30	43	17.0	- -	- -
Clackamas Lake	3400	c				
Clear Lake	3500	4/26	0	0.0	0.0	11.8**
Clear Lake Experimental	3500	4/26	6	2.9	4.5	- -
Dead Horse Grade	3800	4/30	22	8.3	T	- -
Detroit Town	1610	4/27	0	0.0	0.0	0.0**
Detroit Dam	1580	4/27	0	0.0	0.0	0.0**
Golden Curry Creek	3136	c				
Hogg Pass	4755	4/27	88	41.2	36.5	53.5**
Lake Harriet	2045	4/29	0	0.0	0.0	0.0**
Layng Creek	1200	c				
Lost Creek Ranch	1956	4/30	0	0.0	0.0	- -
Lund Park	1740	c				
Marion Forks	2730	4/27	T	T	0.0	5.1**
Marys Peak	3620	4/29	4	1.0	3.7	- -
McCredie Springs	2120	4/27	0	0.0	0.0	0.0**
McKenzie	4800	4/30	100	47.1	35.8	- -
McKenzie Bridge	1372	4/30	0	0.0	0.0	- -
Meridian Dam	750	4/27	0	0.0	0.0	0.0**
Mill City	826	4/27	0	0.0	0.0	0.0**
Oakridge	1310	4/27	0	0.0	0.0	0.0**
Peavine Ridge	3500	4/29	Destroyed by snowplow			
Phlox Point	5600	4/26	114	53.3	66.4	71.4**
Railroad Overpass	2750	4/27	0	0.0	0.0	0.1**
Salt Creek Falls	4000	4/27	0	0.0	0.0	16.2**
Santiam Junction	3990	4/27	13	5.8	7.0	18.2**
Still Creek	3700	4/26	26	11.6	14.8	21.2**
Timothy Lake	3295	4/29	18	7.1	6.0	- -
Vida	800	4/30	0	0.0	0.0	- -
Waldo Lake	5500	c				
Weaver Creek	2440	c				
White Branch Slide	2800	4/30	0	0.0	0.0	- -
Whitewater Bridge	2175	4/27	0	0.0	0.0	T**
Willamette Pass	5600	4/24	85	39.0	39.1	45.9*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK - In spite of an extra warm and slightly dry April, the water supply outlook for the Rogue-Umpqua watersheds remains about average.

SNOW COVER - Snowmelt during April was much greater than average and has reduced the water content of the mountain snowpack to 70 percent of the 15 year average (1943-57) and about 17 percent less than last year on May 1st. Month-end storms added significant moisture to the snowpack above 6000 feet elevation.

SOIL MOISTURE - Upper watershed soils, lying directly under the snowpack, are now adequately primed by snowmelt water and will favor runoff.

RESERVOIR STORAGE - Fourmile and Fish Lake reservoirs now hold about 10,000 acre-feet of water compared with about 8,500 a.f. a year ago. The Medford and Rogue River Valley Irrigation Districts can expect normal inflow to these reservoirs for the balance of the season.

The Talent Irrigation District has a total of 74,000 acre-feet in two reservoirs compared with 55,500 a.f. a year ago. In addition, Hyatt has 12,600 a.f. compared with 6,100 a.f. last year. Remaining inflow to these three reservoirs will be near average this season.

STREAMFLOW - Flow of Rogue River at Raygold* was 86 percent of the average during April but flow since October 1 has averaged only 75 percent normal.

Forecast of the flow of Rogue River at Raygold calls for 1,025,000 acre-feet in the 6 months April through September or 102 percent average. There is no evidence that canal rotation will be required for the Grants Pass Irrigation District this season.

Flow of South Fork of Little Butte Creek is forecast at 46,000 acre-feet or 110 percent of average for the April-July period. Discharge is not expected to drop to 100 c.f.s. until June 14th.

The Illinois River at Kerby and the Applegate near Copper are expected to flow 102 and 103 percent of average, respectively.

Flow of the North Umpqua River below Lemolo reservoir is forecast at 95 percent of the 1943-57 average.

*Preliminary data furnished by U.S. Geological Survey, Portland, Oregon.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek		Average
Applegate River, Big		Average
Applegate River, Little		Average
Ashland Creek		Average
Butte Creek, Little		Average
Butte Creek, Big		Average
Cow Creek		Fair
Deer Creek		Fair
Elk Creek		Fair
Emigrant Cr. (above Res.)		Average
Evans Creek		Average
Gold Hill Irrigation Dist.		Average
Grants Pass Irrig. Dist.		Average
Grave Creek		Average
Illinois River, East Fork		Average
Illinois River, West Fork		Average
Jump-off-Joe Creek		Average
Neil Creek		Average
Red Blanket Creek		Average
Rogue River		Average
Sucker Creek		Average
Table Rock Irrig. Dist.		Average
Thompson Creek		Average
Wagner Creek		Average
Williams Creek		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

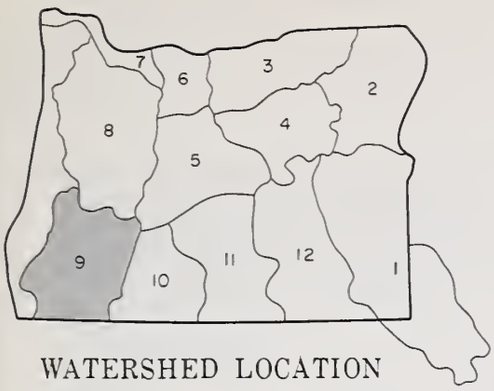
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Emigrant Gap	39.0	37.4	30.3	7.7
Fish Lake	7.8	5.2	4.4	6.1
Fourmile Lake	16.1	- -	5.2	10.8
Howard Prairie	60.0	36.6	25.2	- -
Hyatt Prairie	16.1	12.6	6.1	11.2

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

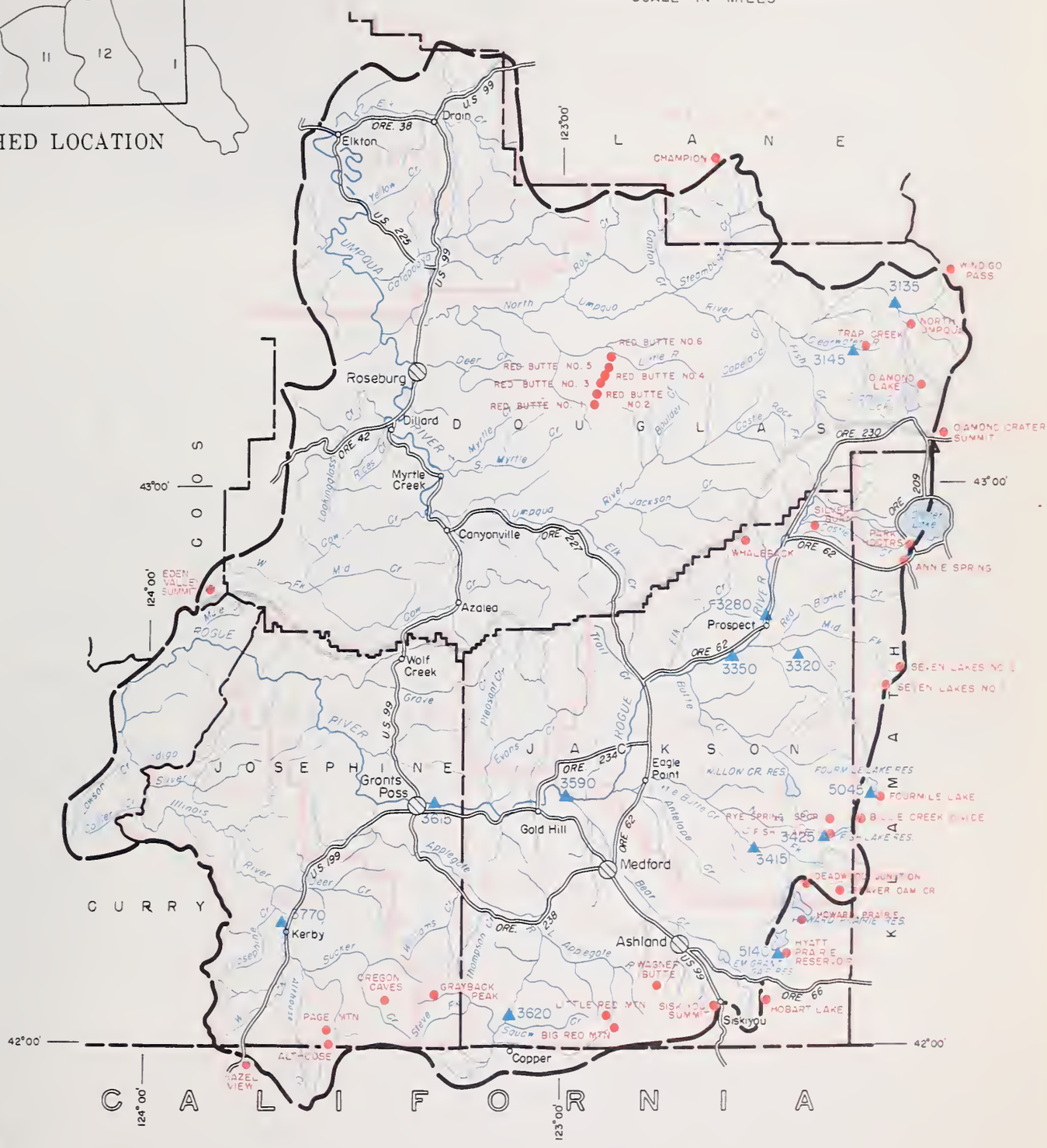
FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
3620	Applegate near Copper	135	April-Sept.	131	103
3145	Clearwater above Trap Creek [d]	70	April-Sept.	73	96
5045	Fourmile Lake net Inflow [d]	7.5	April-Sept.	7.4	101
5140	Hyatt Reservoir net Inflow [d]	6.2	April-Sept.	6.2	100
3770	Illinois River at Kerby [d]	200	April-Sept.	196	102
		195	April-July	190	103
3425	Little Butte, N. Fk. at Fish Lake nr. Lk. Cr. [d]	17.0	April-Sept.	16.9	101
3415	Little Butte, S. Fk. nr. Lake Creek	46	April-July	42	110
	Note: Minimum flow will drop to 100 c.f.s. by June 14.				
3280	Rogue above Prospect	357	April-Sept.	351	102
		300	April-July	293	102
3320	Rogue, South Fork near Prospect [d]	83	April-Sept.	83	100
		71	April-July	71	101
3350	Rogue below South Fork	760	April-Sept.	749	101
		624	April-July	608	103
3590	Rogue at Raygold near Central Point	1025	April-Sept.	1004	102
		867	April-July	842	103
3615	Rogue at Grants Pass	980	April-Sept.	974	101
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls	177	April-Sept.	186	95

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not Surveyed. (h) Construction. (i) 7 of 18 sampling points. (j) Partly estimated. (*) 1943-57 Adjusted average.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Althouse	4530	c				
Annie Spring	6018	4/27	80	28.5	44.0	45.4
Beaver Dam Creek	5100	g				
Big Red Mountain	6500	c				
Billie Creek Divide	5300	4/27	18	7.8	11.1	18.4*
Champion	4500	4/30	43	17.0	- -	- -
Cold Springs Camp	6100	c				
Deadwood Junction	4600	c				
Diamond-Crater Summit	5800	4/28	87	37.3	33.0	- -
Diamond Lake	5315	4/28	36	14.7	14.9	17.8*
Eden Valley Summit	2390	g				
Fish Lake	4865	g				
Fourmile Lake	6000	g				
Grayback Peak	6000	c				
Hazel View (Cal.)	2500	c				
Hobart Lake	5010	c				
Howard Prairie	4500	g				
Hyatt Prairie Reservoir	4900	c				
Little Red Mountain	6500	c				
North Umpqua	4215	4/29	2	0.9 j	0.4	- -
Page Mountain	4045	c				
Park Headquarters	6450	4/30	128	43.2	59.9	60.7*
Red Butte #1	4560	4/24	16	7.0	11.8	- -
Red Butte #2	4000	4/24	0	0.0	0.0	- -
Red Butte #3	3500	4/24	0	0.0	0.0	- -
Red Butte #4	3000	4/24	0	0.0	0.0	- -
Red Butte #5	2500	4/24	0	0.0	0.0	- -
Red Butte #6	2000	4/24	0	0.0	0.0	- -
Rye Spring Spur	5000	g				
Seven Lakes #1	6800	c				
Seven Lakes #2	6200	c				
Silver Burn	3720	4/30	0	0.0	0.0	- -
Siskiyou Summit	4630	c				
South Fork Canal	3500	4/30	0	0.0	0.0	- -
Trap Creek	3800	c				
Wagner Butte	6900	c				
Whaleback	5140	c				
Windigo Pass	5800	4/24	90	42.7	44.5	52.5**

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

Unusually warm and dry April weather has decreased the total expected irrigation water supply for Klamath Basin lands but the outlook remains satisfactory for this season.

SNOW COVER

Water content of the mountain snowpack was reduced during April at a very rapid rate from 9 percent above average to 35 percent less than average for May 1st. The snow is now 21 percent less than a year ago at this date. The rapid melting of the snow produced good runoff into reservoirs but it removed snow cover which is usually counted on to produce late summer streamflow.

SOIL MOISTURE

Watershed soils under the snowpack have absorbed considerable snowmelt water and are now relatively well wetted. Soils in the vicinity of the Bly Mountain highway summit have absorbed 2.5 inches of water from the snow.

RESERVOIR STORAGE

Storage water increased rapidly in Gerber to 39,100 acre-feet compared with 22,200 a.f. held in storage a year ago on May 1st. Clear Lake storage rose to 116,400 acre-feet compared with 118,800 a year ago. Upper Klamath Lake storage is currently 535,800 acre-feet, well above average and also greater than last year at this time.

STREAMFLOW

All of the Klamath streamflow forecasts have been decreased because of the abnormal April conditions. Inflows to Gerber and Clear Lake reservoirs are now expected to be 30,000 and 40,000 acre-feet respectively in the April-June period. Most of this has already been received.

Inflow to Upper Klamath Lake is forecast at 600,000 acre-feet or 95 percent average for the April-September period. Flow of Sprague River has been set at 90 percent average and the Williamson River at 95 percent average.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley		Average
Lost River (Clear Lake)		Average
Lost River (Gerber)		Average
Lost River (Willow Res.)		Average
Sprague River		Average
Upper Klamath Lake		Average
Williamson River		Average

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	440.2	116.4	118.8	279.0
Gerber	94.0	39.1	22.2	65.1
Upper Klamath Lake	584.0	535.8	510.0	497.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

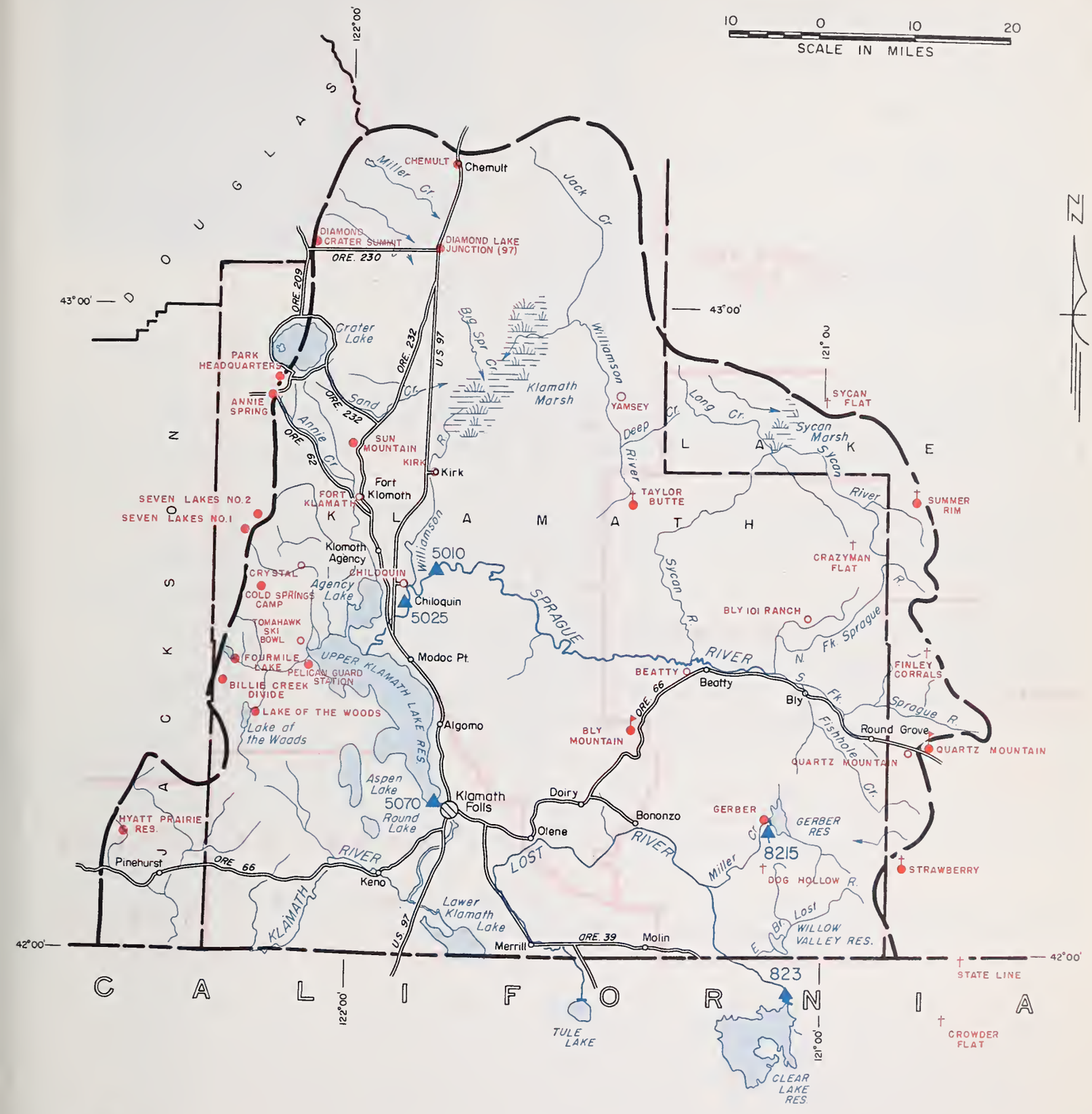
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
NO.	NAME				
823	Clear Lake Reservoir Inflow [g]	40	April-June	47	85
8215	Gerber Reservoir Inflow [g]	30	April-June	24	125
5010	Sprague near Chiloquin	265	April-Sept.	296	90
5070	Upper Klamath Lake net Inflow [g]	600	April-Sept.	632	95
5025	Williamson below Sprague River	460	April-Sept.	486	95

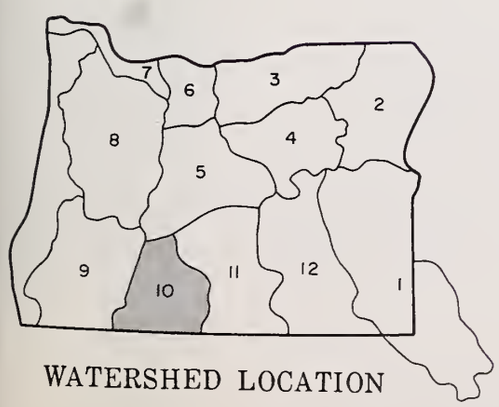
AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	7.4	4-27-62	4.7	4.3	- -
Quartz Mountain	5320	48	10.7	4-27-62	1.7	2.2	- -

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From COPCO or USBR records of inflow. (h) Flashboards increase capacity to 513.0 (i) Water content partly estimated. (*) 1943-57 Adjusted average.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1943-57 AVERAGE
Annie Spring	6018	4/27	80	28.5	44.0	45.4
Beatty (PP&L)	4300	c				
Billie Creek Divide	5300	4/27	18	7.8	11.1	18.4*
Bly Mountain	5090	4/27	0	0.0	0.0	- -
Bly 101 Ranch (PP&L)	4800	c				
Chemult	4760	4/25	0	0.0	- -	0.5**
Chiloquin (PP&L)	4187	c				
Cold Springs Camp	6100	c				
Crazyman Flat e	6100	c				
Crowder Flat e (Cal.)	5200	c				
Crystal (PP&L)	4200	c				
Diamond-Crater Summit	5800	4/28	87	37.3	33.0	- -
Diamond Lake Junction (97)	4600	4/28	0	0.0	0.0	- -
Dog Hollow e	4900	c				
Finley Corrals e	6000	c				
Fort Klamath (PP&L)	4150	c				
Gerber	4850	c				
Hyatt Prairie Reservoir	4900	c				
Kirk (PP&L)	4533	c				
Lake of the Woods	4960	4/25	13	5.0	- -	6.1*
Park Headquarters	6450	4/30	128	43.2	59.9	60.7*
Pelican Guard Station	4150	4/27	0	0.0	- -	- -
Quartz Mountain	5320	4/27	0	0.0	0.0	0.0**
Quartz Mountain (PP&L)	5504	4/27	0	0.0	0.0	- -
Seven Lakes #1	6800	c				
Seven Lakes #2	6200	c				
State Line e (Cal.)	5750	c				
Strawberry	5600	4/26	0	0.0	0.0	- -
Summer Rim	7200	c				
Sun Mountain	5350	c				
Sycan Flat e	5500	c				
Taylor Butte	5100	c				
Tomahawk Ski Bowl (PP&L)	4200	c				
Yamsey (PP&L)	4600	c				

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE - OREGON
AGRIC. EXPERIMENT STATION - OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 water supply outlook for Lake County has dimmed slightly but remains near average for all streams of the area. Streamflow was good during April and reservoir storage improved but is still well below average for May 1.

SNOW COVER

Snow cover has been melted off by a warm, dry April and now remains at only the highest elevations. Only 3 snow courses were measured on May 1 and these show no snow below about 6000 feet.

SOIL MOISTURE

The soil moisture station at Camas Creek absorbed 2.7 inches of snowmelt water during April and the profile is now 72 percent of capacity. The Quartz Mountain station appears to be reading much less moisture. It picked up only one-half inch of water during the month and does not seem to be giving logical moisture readings. Information from this station was not used in the area average.

RESERVOIR STORAGE

Cottonwood and Drews reservoirs received good runoff during April and now hold a total of 41,900 acre-feet compared with 27,800 acre-feet last year at this time.

STREAMFLOW

High flows occurred early in April this year on many Lake County streams. These flows were caused by warm weather melting a good low elevation snowpack in just a few days.

Streamflow forecasts have been reduced as a result of this early loss of snow cover. They now range from 91 percent or 31,000 acre-feet for the inflow to Drews reservoir for the April-July period to 105 percent for Twentymile Creek and Deep Creeks for the April-June and the April-September periods respectively. Drews reservoir received 25,700 acre-feet inflow during April.

Honey Creek is expected to flow 98 percent of average for the April-September period. The Chewaucan is forecast to flow 99 percent or 90,000 acre-feet for this same 6 month period.

Smaller streams in the area are expected to flow slightly less than average for the remainder of the season.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River		Average
Crooked Creek		Average
Deep Creek		Average
Dry Creek		Fair
East Side Goose Lake		Average
Guano Lake		Fair
Honey Creek		Average
Lakeview Water Users Assn.		Average
Rock Creek (Hart Mtn.)		Fair
Silver-Buck Creeks		Fair
Summer Lake		Average
Thomas Creek		Average
Twentymile Creek		Average
Warner Lakes		Fair

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottonwood	4.1	4.4	3.5	3.6
Drew	63.0	37.5	24.3	57.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.)

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[b]
3840	Chewaucan near Paisley	90	April-Sept.	91	99
		80	April-June	82	98
3715	Deep above Adel	80	April-Sept.	76	105
		75	April-June	71	106
3385	Drew Reservoir net Inflow	31	April-July	34	91
3785	Honey near Plush	16.5	April-Sept.	16.9	98
		16.0	April-June	16.3	98
3660	Twentymile near Adel	21	April-June	20	105

AVAILABLE SOIL MOISTURE

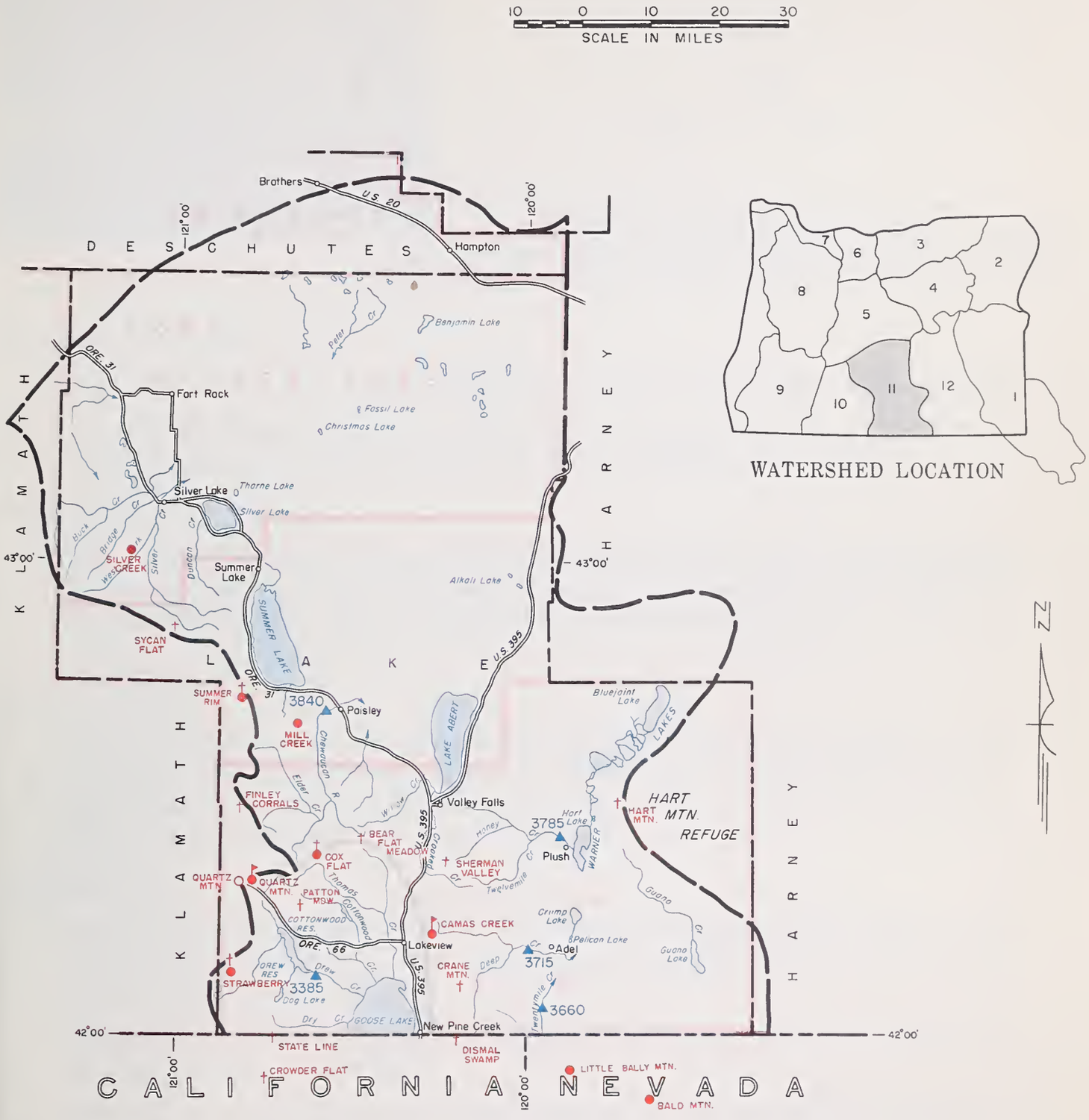
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) AVAILABLE CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	6.0	5-3-62	4.3	- -	- -
Quartz Mountain	5320	48	10.7	4-27-62	1.7	2.2	- -

SNOW

SNOW COURSE NAME	SNOW COURSE ELEVATION	CURRENT INFORMATION DATE OF SURVEY	CURRENT INFORMATION SNOW DEPTH (Inches)	CURRENT INFORMATION WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	PAST RECORD WATER CONTENT (Inches) 1943-57 AVERAGE
Bald Mountain (Nev.)	6720	c				
Bear Flat Meadow[e]	5900	c				
Camas Creek	5720	c				
Cox Flat[e]	5750	c				
Crane Mountain[e]	6020	c				
Crowder Flat[e] (Cal.)	5200	c				
Dismal Swamp[e] (Cal.)	7000	c				
Finley Corrals[e]	6000	c				
Hart Mountain[e]	6350	c				
Little Bally Mountain[e] (Nev.)	6600	c				
Mill Creek	6200	c				
Quartz Mountain (PP&L)	5504	4/27	0	0.0	0.0	- -
Quartz Mountain	5320	4/27	0	0.0	0.0	0.0**
Sherman Valley[e]	6600	c				
Silver Creek	4900	c				
State Line[e] (Cal.)	5750	c				
Strawberry	5600	4/26	0	0.0	0.0	- -
Summer Rim	7200	c				
Sycan Flat[e]	5500	c				

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of

MAY 1, 1962

U. S. D. A. SOIL CONSERVATION SERVICE · OREGON
AGRIC. EXPERIMENT STATION · OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1962 water supply outlook for Harney County remains slightly above average.

Low precipitation during April caused slight decreases in streamflow forecasts as snow receded much faster than usual on most watersheds of the county.

SNOW COVER

Snow measurements on 3 courses in the north end of the county show only 28 percent of average for May 1st and only about one-fourth as much water as last year at this time. Snow cover has receded very rapidly this year due to a warm, dry April.

SOIL MOISTURE

Soils on higher portions of the watershed absorbed as much as 4.5 inches of snowmelt water during April in the north end of the county. Most of these soils are near capacity and will aid future runoff. The county as a whole averages about 70 percent of capacity in the top 3 to 4 feet of soil.

STREAMFLOW

Streamflow forecasts have dropped 5 to 23 percent and range from 104 percent of average on Silver Creek for the April-July period to 126 percent on Trout Creek for the April-June period.

Silvies River near Burns is expected to flow 115,000 acre-feet or 107 percent of the April-September average.

The Blitzen forecast dropped to 110 percent of average or 74,000 acre-feet for the April-September period.

Smaller streams in the county are expected to produce less than average flow for the remainder of the season.

Report prepared by
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209 S.W. FIFTH AVENUE · PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley		Fair
Cow Creek		Fair
Donner und Blitzen River		Average
Mill-Coffeepot Creeks		Fair
Rattlesnake Creek		Fair
Rock Creek (Hart Mtn.)		Fair

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Silver Creek		Average
Silvies River		Average
Soldier-Prather Creeks		Fair
Trout Creek		Average
Whitehorse Creek		Average

AVAILABLE SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	AVAILABLE CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	12.0	4-30-62	9.5	6.5	8.4
Fish Creek	7600	48	9.5	3-22-62	3.5 [j]	- -	- -
Folly Farm	4450	36	8.3	2-23-62	4.4 [j]	- -	5.0
Silvies	6900	48	10.3	3-22-62	6.8 [j]	- -	- -
Snow Mountain	6300	48	10.4	3-20-62	8.7 [j]	- -	- -
Starr Ridge	5150	36	6.1	4-29-62	5.7	5.2	5.8
Stinking Water	4800	48	11.7	2-23-62	10.2 [j]	- -	11.7
Willow-Bald	5000	24	4.3	3-20-62	1.7 [j]	- -	- -

STREAMFLOW FORECASTS [a] (1,000 Ac. Ft.)

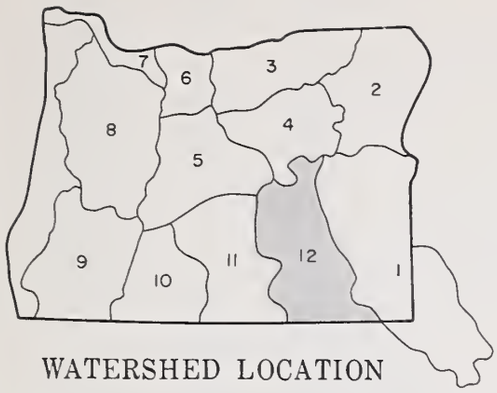
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE [b]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	74	April-Sept.	67	110
		62	April-June	55	113
4030	Silver near Riley	27	April-July	26	104
3935	Silvies near Burns	115	April-Sept.	107	107
		112	April-June	103	109
4065	Trout near Denio	11.5	April-Sept.	9.2	125
		10.2	April-July	8.5	126

SNOW

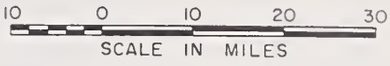
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1943-57 AVERAGE
Blue Mountain Spring	5900	4/30	6	2.3	8.4	5.8**
Buck Pasture [e]	5700	[c]				
Buckskin Lake [e]	5200	[c]				
Call Meadows [e]	5340	[c]				
Delintment Lake	5600	[c]				
Denio Creek [e]	6000	[c]				
Disaster Peak (Nev.)	6500	[c]				
Emigrant Butte	5000	[c]				
Fish Creek	7900	[c]				
Foster Flat [e]	5020	[c]				
Hart Mountain [e]	6350	[c]				
Idlewild Camp	5200	4/27	0	0.0	0.0	- -
Izee Summit	5293	4/29	0	0.0	0.0	1.6**
Lake Creek	5120	[c]				
Oregon Canyon [e]	6950	[c]				
Rock Spring	5100	4/27	0	0.0	0.0	- -
Silvies	6900	[c]				
Snow Mountain	6300	[c]				
Starr Ridge	5150	4/29	0	0.0	0.0	0.9**
Stinking Water	4800	[g]				
Trout Creek [e]	7800	[c]				
"V" Lake [e]	6600	[c]				

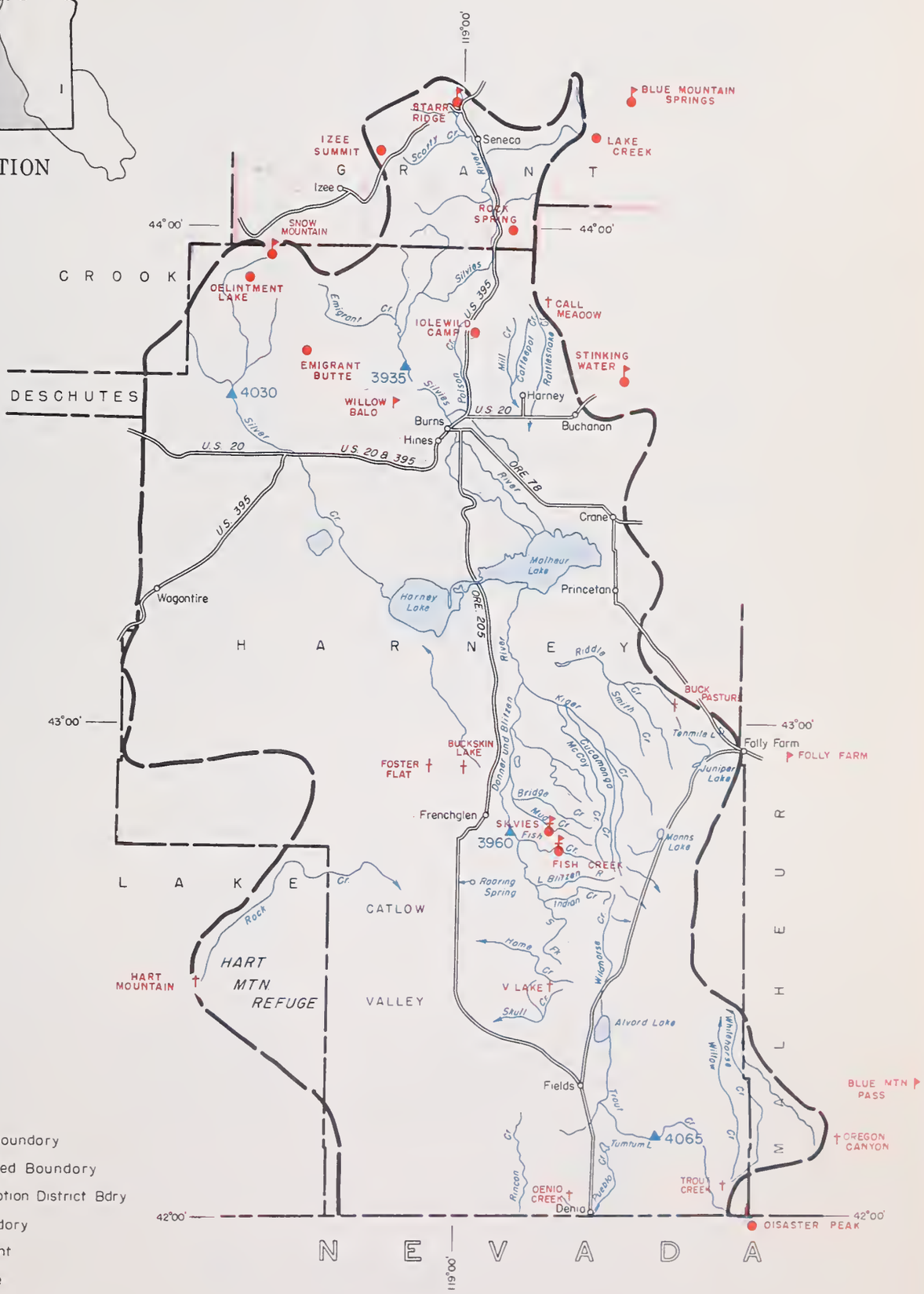
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Partly estimated. (i) No Fall measurement. (j) Nearest current data. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aeriol Snow Depth Gage
- ⚑ Soil Moisture Station

"The Conservation of Water begins with the Snow Survey"

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

16G6	Antelope Ridge	32	8S	1W	5900
16G5	Barren Valley (Ida)	26	27S	3E	4200
16G4	Battle Creek (Nev)	32	11S	1E	5700
16G3	Bear Creek (Nev)	31	16N	5E	7800
16G2	Big Bend (Nev)	30	45N	55E	6700
16G1	Elko Mtn Pass	4	33S	42E	5980
16F6	Rabbithill, Lower (Nev)	25	15N	39E	6700
16F5	Rabbithill, Upper (Ida)	31	15N	39E	7200
16F4	Ball Basin (Nev)	29	12S	5W	5600
16F3	Toaster Peak	8	47N	2E	6500
16F2	Fish Creek	4	33S	33E	7900
16F1	Telly Farm Summit	8	30S	43E	5450
15F6	Fox Creek (Nev)	33	16N	51E	6800
15F5	Fry Canyon (Nev)	31	15N	56E	6700
15F4	Gold Creek (Nev)	22	41N	39E	7800
15F3	Granite Peak (Ida)	31	3S	2W	5500
15F2	Hyde Pasture (Nev)	15	42N	53E	6830
15F1	Jack Creek, Lower (Nev)	9	42N	53E	7250
14F6	Jack Creek, Upper (Nev)	28	42N	53E	8120
14F5	Jack Peak	9	30S	46E	4390
14F4	Jordan Valley	2	40S	47E	3650
14F3	Lookout Butte	27	40S	44E	6400
14F2	Louse Canyon	18	41N	40E	6700
14F1	Martin Creek (Nev)	18	39N	46E	7200
13F6	Midas (Nev)	34	42N	2W	5500
13F5	Mud Flat (Ida)	6	40S	40E	6950
13F4	Oregon Canyon				
13F3					
13F2					
13F1					
12F6					
12F5					
12F4					
12F3					
12F2					
12F1					
11F6					
11F5					
11F4					
11F3					
11F2					
11F1					
10F6					
10F5					
10F4					
10F3					
10F2					
10F1					
9F6					
9F5					
9F4					
9F3					
9F2					
9F1					

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
17M6a	Quinn Ridge (Nev)	9	47N	41E	6300
16M11a	Red Canyon (Ida)	32	11S	1W	6500
15M6M	Rodeo Flat (Nev)	36	43N	53E	6800
15M3A	76 Creek (Nev)	6	44N	58E	7100
16F3	Silver City (Ida)	6	5S	3W	6400
18M1MA	Silvies	35	32S	32½E	6900
16G1	South Mountain No. 2 (Ida)	35	7S	5W	6340
15M1a	Sucker Creek	Unsurveyed			
15M9M	Taylor Canyon (Nev)	35	39N	53E	6200
15M8	Tremewan Ranch (Nev)	9	39N	55E	5700
16M2MA	Triangle (Ida)	25	7S	3W	5150
13G5a	Trout Creek	10	41S	38E	7300
13G7a	"V" Lake	31	35½S	32½E	6600

Malheur River

18E1M	Barney Creek	16	14S	36E	5950
18E16M	Blue Mountain Spring	21	15S	35E	5900
18F6a	Buck Pasture	21	29S	35E	5700
18E21a	Bully Creek	10	17S	37E	5300
18F7a	Call Meadows	29	20S	33E	5340
17E2	Clover Creek	36	16S	39E	4100
17F2a	Cottonwood-Indian	10	19S	39E	4320
18E19M	Crane Prairie	24	15S	3½E	5375
19F5a	Crow Camp	Unsurveyed			
18E20	Eldorado Pass	20	11S	38E	4600
18F24a	Flag Prairie	32	16S	36E	4750
19E1S	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	23	18S	32E	5100
18F1M	Stinkine Water	33	21S	3½E	4800

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

18E1L	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	6	12S	36E	5098
17E1M	Dooley Mountain	32	11S	40E	5430
18E20	Eldorado Pass	20	14S	38E	4600
18E8	Gold Center	21	9S	36E	5340
18E9	Tipton	34	10S	35½E	5100

Powder River

18E1	Anthony Lake	18	7S	37E	7125
18E5	Bourne	33	8S	37E	5800
17E1M	Dooley Mountain	32	11S	40E	5430
18E3	Eilertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6	Goodrich Lake	4	9S	38E	6775
18E23	Little Alps	10	7S	37E	6200
18D10	Summit Springs	9	6S	37E	6000
17D7	Taylor Green	3	6S	42E	5740

Pine Creek

17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2	Aneroid Lake No. 2	16	4S	45E	7000
18E1	Anthony Lake	18	7S	37E	7125

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
17D10a	Bald Mountain	14 & 15	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8	County Line	28	4S	3½E	4800
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	3½E	4775
17D11a	Standley	28	2S	42E	7100
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	34	4N	38E	5070

Imnaha River

17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2	Aneroid Lake No. 2	16	4S	45E	7000

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

19D2	Arbuckle Mountain	33	4S	29E	5400
18D11M	Athena-Weston Summit	21	4N	35E	1700
18D12M	Battle Mountain Summit	29	3S	31E	4340
18D1M	Emigrant Springs	29	1N	35E	3925
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

18D3M	Tollgate	32	4N	38E	5070

Willow Creek

19D2	Arbuckle Mountain	33	4S	29E	5400

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

18E1	Anthony Lake	18	7S	37E	7125
19D2	Arbuckle Mountain	33	4S	29E	5400
18D12M	Battle Mountain Summit	29	3S	31E	4340
19E2	Beech Creek Summit	4	12S	30E	4800
18E16M	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	6	12S	36E	5098
19E3M	Derr	14	13S	23E	5670
18E11	Dixie Springs	28	11S	3½E	6650
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E2la	Indian Cr. Butte	5	15S	33E	6550
19E9	Izee Summit	28	16S	29E	5293
18D6	Lucky Strike	28	3S	32E	5050
20F1M	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	33½E	6000
18D7	Schoolmarm	28	4S	3½E	4775
19F1M	Snow Mountain	1	19S	24E	6300
19E7M	Starr Ridge	20	15S	23E	5150
18E9	Tipton	34	10S	35½E	5100
18E25M	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F7	Charlton Lake	23	21S	6E	5750
21F11	Chemult	21	27S	8E	4760
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4900
21F19	New Dutchman Flat #2	21	18S	9E	4400
21F13	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	3	17S	9E	5600
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600
22F15	Windigo Pass	20	25S	6E	5800

Crooked River

19E3M	Derr	14	13S	23E	5670
20E1M	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS (6)

Hood River

21D5	Brooks Meadows	2	2S	10E	4300
21D25	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8	Phlox Point	6	3S	9E	5600
21D4	Red Mill	21	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D24	Upper Valley	20	1S	10E	2530

Mile Creeks - Mosier Creek

21D6	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

21D12	Clear Lake	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2015
21D14	Peavine Ridge	14 & 15	6S	7E	3500
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21F6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	1E	826
21E5	Santiam Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	1400
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

Middle Fork Willamette River

22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	26	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	3E	1310
22F5	Railroad Overpass	27	22S	5E	2750
22F4	Salt Creek Falls	33	22S	6E	4000
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600

Coast Fork Willamette River

22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

23D4	Althouse	17	41S	7W	4530
22D6	Annie Spring	19	31S	6E	6018
22D28	Beaver Dam Creek	Unsurveyed			
22D21	Big Red Mountain	31	40S	1W	6500
22D13	Billie Creek Divide	30	36S	5E	5300
22D27	Deadwood Junction	Unsurveyed			
22F19	Diamond-Crater Summit	34	28S	6E	5800
22D14	Fish Lake	3	37S	4E	4865
22D12	Fourmile Lake	9	36S	5E	6000
23D3	Grayback Peak	9	40S	5W	6000
23D1	Hazel View (Cal)	9	40N	4E	2500
22D17	Hobart Lake	17	40S	3E	5010
22D26	Howard Prairie	32	38S	4E	4500
22D16	Hyatt Prairie Reservoir	15	39S	3E	4900
22D22	Little Red Mountain	25	40S	2W	6500
23D6	Oregon Caves	16	40S	6W	4000
23D5	Page Mountain	8	41S	7W	4015
22D5	Park Headquarters	8	31S	6E	6450
22D29	Rye Spring Spur	Unsurveyed			
22D10	Seven Lakes No. 1	3	34S	5E	6800
22D11	Seven Lakes No. 2	26	33S	5E	6200
22D2	Silver Burn	30	30S	1E	3720
22D20	Siskiyou Summit	17	40S	2E	4630
22D9	South Fork Canal	12	33S	3E	3500
22D18	Wagner Butte	1	40S	1W	6900
22D1	Whaleback	3	31S	2E	5140

Umpqua River

22F9	Champion	12	23S	1E	4500
22F18	Diamond Lake	29	27S	6E	5315
23D7	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	Unsurveyed			
22F26	Red Butte No. 4	Unsurveyed			
22F27	Red Butte No. 5	Unsurveyed			
22F28	Red Butte No. 6	Unsurveyed			
22F17	Trap Creek	1	27S	4E	3800
22D1	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

22D6	Annie Spring	19	31S	6E	6018
22D13	Billie Creek Divide	30	36S	5E	5300
23D5	Ely Mountain	15 & 22	37S	11E	5090
21F11	Chemult	21	27S	8E	4760
22D24	Cold Springs Camp	12	35S	5E	6100
21D12a	Crazyman Flat	9	34S	15E	6100
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
21D6a	Dog Hollow	1	40S	1E	1000
21D11a	Finley Corrals	11	36S	10E	6000
22D12	Fourmile Lake	9	36S	5E	6000
21D4	Gerber	12	39S	13E	4850
22D16	Hyatt Prairie Reservoir	15	39S	3E	4900
22D26	Howard Prairie	32	38S	1E	4500
22D15	Lake of the Woods	11	37S	5E	4960
22D5	Park Headquarters	8	31S	6E	6450
22D25	Pelican Guard Station	9	36S	6E	4450
22D6	Quartz Mountain	2	38S	16E	5320
22D10	Seven Lakes No. 1	3	34S	5E	6800
22D11	Seven Lakes No. 2	26	33S	5E	6200
20H1a	State Line (Cal)	21	48N	11E	5750
20D9A	Strawberry	4	40S	16E	5600
20G2A	Summer Rim	15	33S	16E	7200
21G2	Sun Mountain	22	32S	7½E	5350
20G13a	Sycan Flat	25	31S	11E	5500
21G3	Taylor Butte	16	33S	11E	5100

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

The Californio Oregon Power Company's Snow Stations

1	Beatty (COPCO)	22	36S	12E	4300
10	Ely 101 Ranch (COPCO)	22	35S	11E	4800
3	Chiloquin (COPCO)	34	34S	7E	4187
4	Crystal (COPCO)	26	34S	6E	4200
5	Fort Klamath (COPCO)	22	33S	7½E	4150
6	Kirk (COPCO)	1	33S	7E	4533
9	Quartz Mountain (COPCO)	33	37S	16E	5504
8	Tomahawk Ski Bowl (COPCO)	3	36S	6E	4200
12	Yansey (COPCO)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

20G15a	Bear Flat Meadow	27	36S	19E	5900
20G8M	Camas Creek	5	39S	21E	5720
20G11a	Cox Flat	16	37S	18E	5750
20G16a	Crane Mountain	13	40S	21E	6020
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
20H3a	Dismal Swamp (Cal)	31	48N	16E	7000
20G17a	Patton Meadow	28	38S	18E	6800
20G6	Quartz Mountain	2	38S	16E	5320
20H1a	State Line (Cal)	21	48N	11E	5750
20G9A	Strawberry	4	40S	16E	5600

Abert Lake

20G15a	Bear Flat Meadow	27	36S	19E	5900
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6000
20G4	Mill Creek	1	34S	17E	6200
20G6	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

20G2A	Summer Rim	15	33S	16E	7200

Silver Lake

21F12	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	11E	5500

Warner Lake

20G8M	Camas Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Dismal Swamp (Cal)	31	48N	22E	7000
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600

Guano Lake

19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H1a	Little Bally Mtn. (Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHEDS (12)

Silvies River - Silver Creek

18F7a	Call Meadows	29	20S	33E	5340
19F2	Delintment Lake	28	19S	26E	5600
19F3	Fairrant Butte	14	21S	27E	5000
19F3	Idlewild Camp	27	20S	31E	5200
19E9	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	23E	5150
19F1M	Stinking Water	33	21S	3½E	4800
19F8M	Willow-Bald	19	22S	29E	5000

Donner Und Blitzen River

18F6a	Buck Pasture	21	29S	35E	5700
18F2MA	Fish Creek	4	33S	33E	7900
19G1a	Hart Mountain	1	36S	25E	6350
18F1MA	Silvies	35	32S	32½E	6900
18G7a	"V" Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

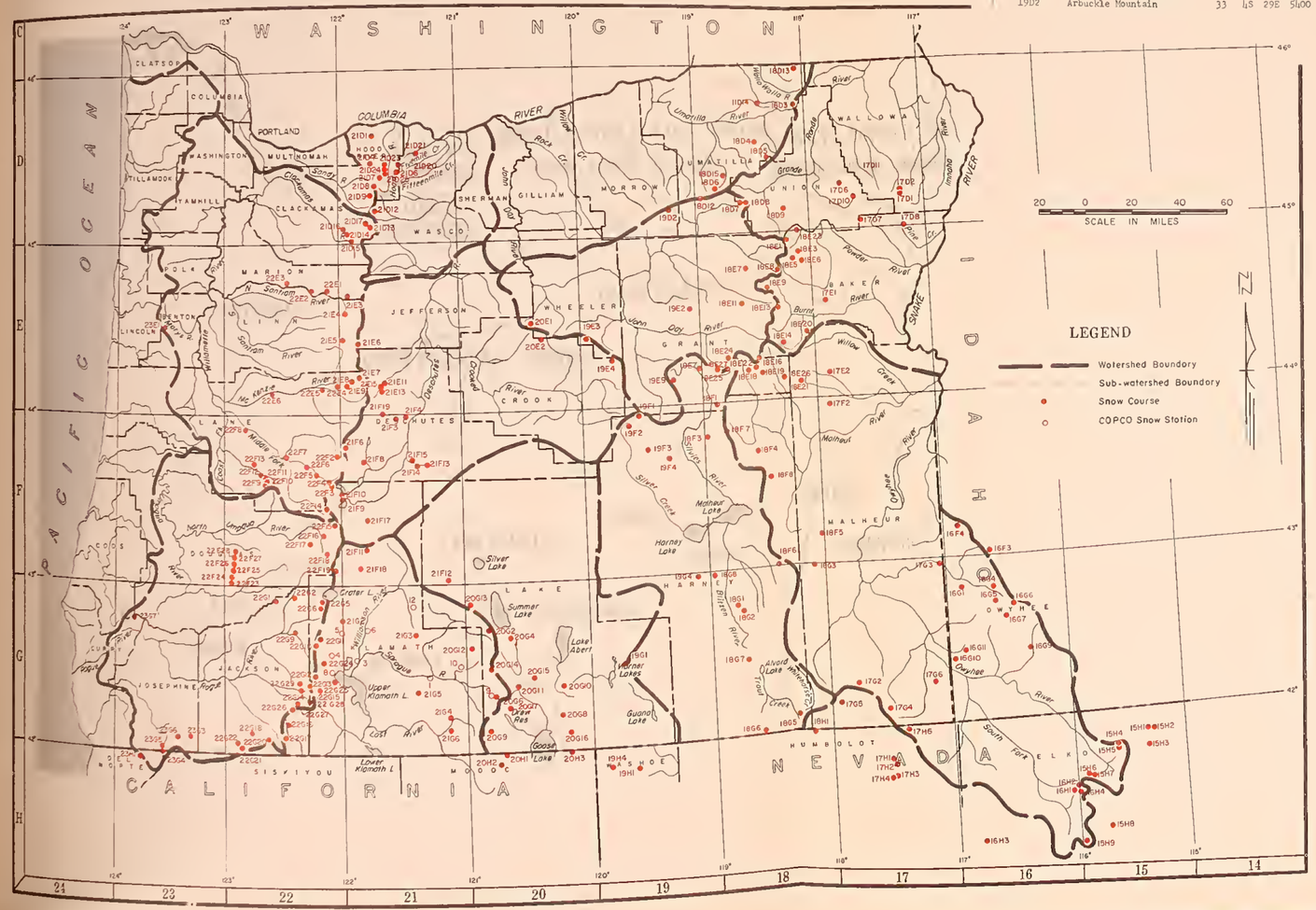
18G6a	Denio Creek	14	41S	3½E	6000
18H1	Disaster Peak (Nev)	8	47N	3½E	6500
17G5a	Oregon Canyon	9	40S	40E	5950
18G5a	Trout Creek	10	41S	38E	7800

Harney Lake

18G8	Buckskin Lake	Unsurveyed			
19G4	Foster Flat	Unsurveyed			

LEGEND

19D2	SNOW COURSE ONLY
19D2M	SNOW COURSE AND SOIL MOISTURE
19D2MA	SNOW COURSE SOIL MOISTURE AND AERIAL MARKER
19D2A	SNOW COURSE AND AERIAL MARKER
19D2●	SOIL MOISTURE ONLY
19D2▼	AERIAL MARKER ONLY



Map and Index to OREGON SNOW COURSES

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The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon Agricultural Experiment Station
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- California-Pacific Utilities Company
- Pacific Power and Light Company
- Portland General Electric Company
- The California Oregon Power Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROSS BLDG., 209 S.W. 5TH AVE.
PORTLAND 4, OREGON

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COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"